



MSCP 2008 Annual Report Workshop

August 26, 2009



Approved NCCP/HCPs

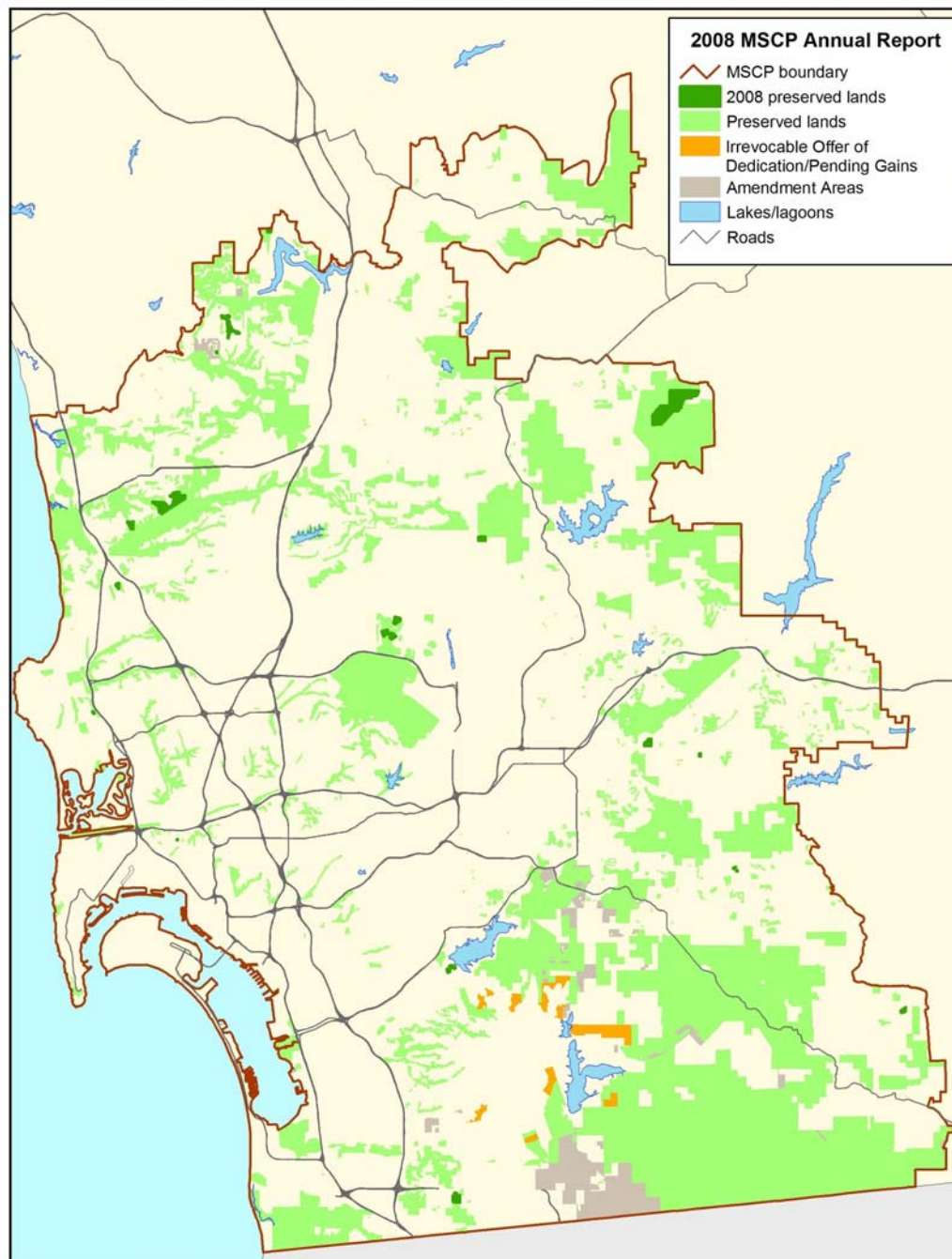
- MSCP – County of San Diego; Cities of San Diego, La Mesa, Poway, Chula Vista
- City of Carlsbad (MHCP)
- San Diego Gas & Electric Company
- Central and Coastal Orange County
- Southern Orange County (HCP only)
- Western Riverside County MSHCP
- Coachella Valley

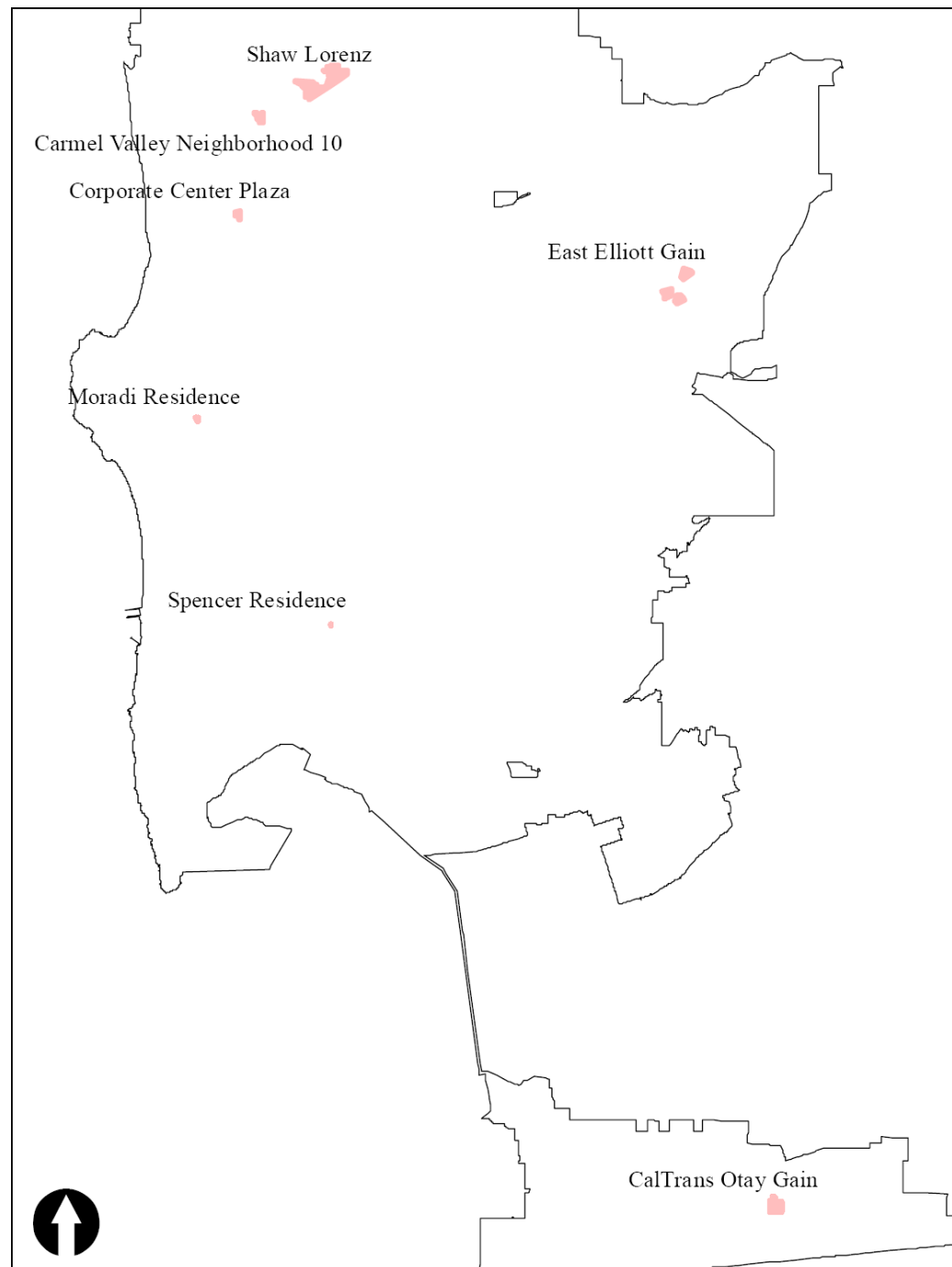
NCCP/HCP Planning

- San Diego County Water Authority
- City of Rancho Palos Verdes
- City of Oceanside
- NC MSCP (EC MSCP on hold)
- County SD MSCP Quino Amendment
- City of Santee (MSCP)
- Joint Water Agencies (Sweetwater, Helix, Padre Dam, Otay)
- Orange County Transportation Agency (OCTA)
- City of San Diego HCP for Vernal Pool Species

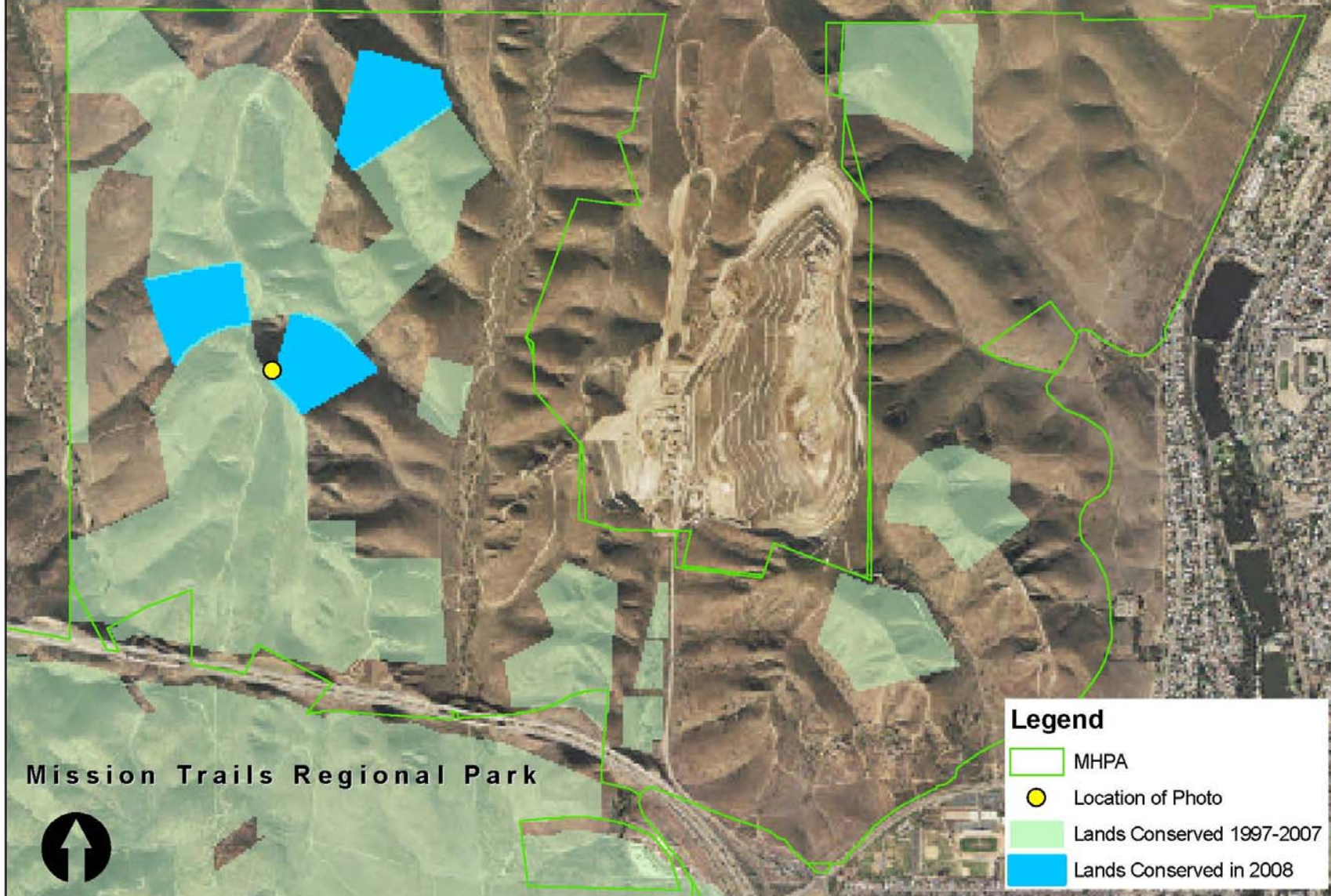
MSCP Habitat Losses and Gains

	2008	2008	
Jurisdiction	Habitat Losses	Habitat Gains	Cumulative Gains
County San Diego	202.00	652.00	83,881.50
City of San Diego	266.90	263.54	35,632.10
City of Chula Vista	231.00	172.00	2,771.30
City of La Mesa	-	-	50.29
City of Poway	29.11	45.73	1,831.00
	729.01	1,133.27	124,166.19



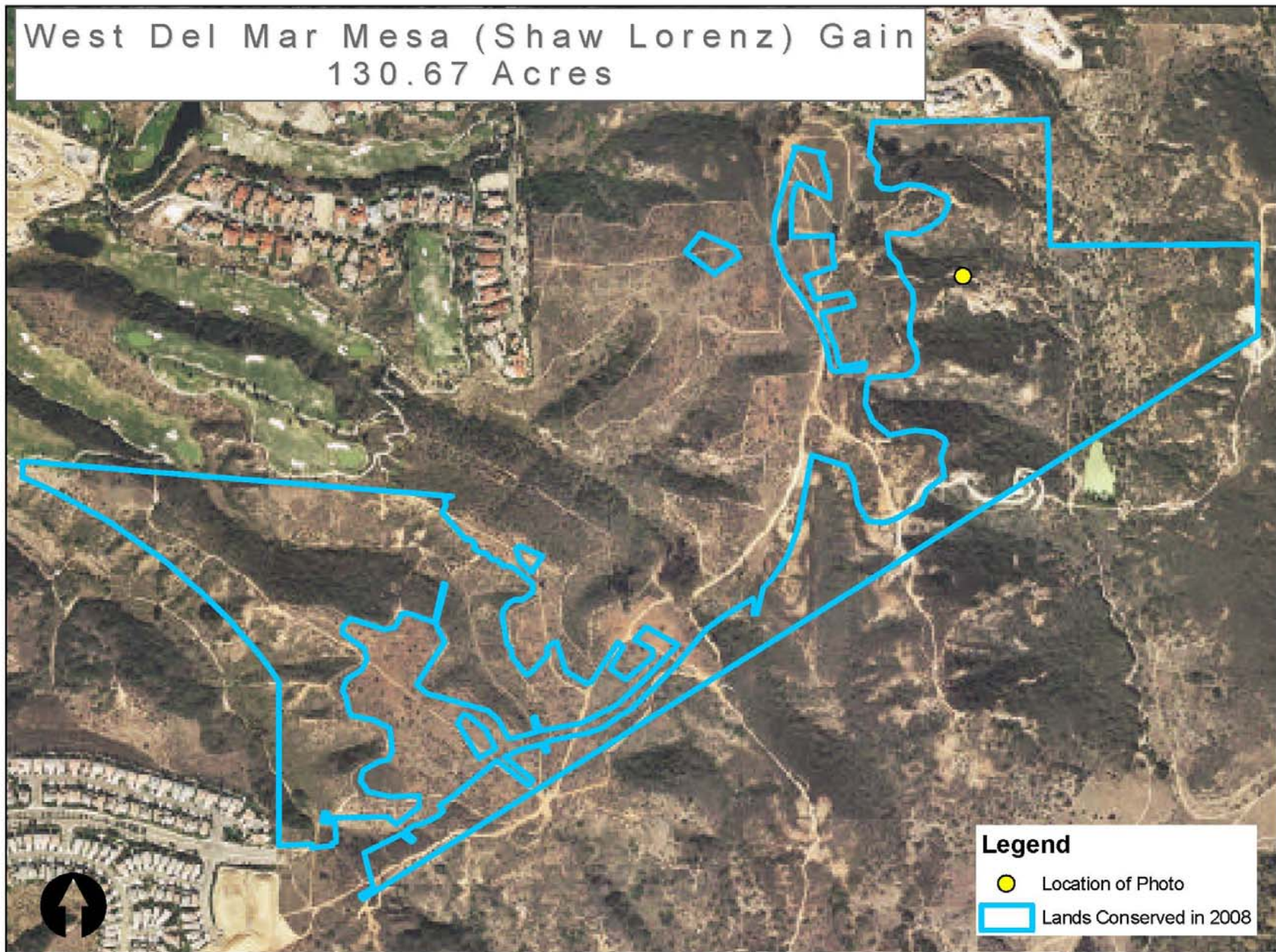


East Elliott Acquisitions 64.22 Acres

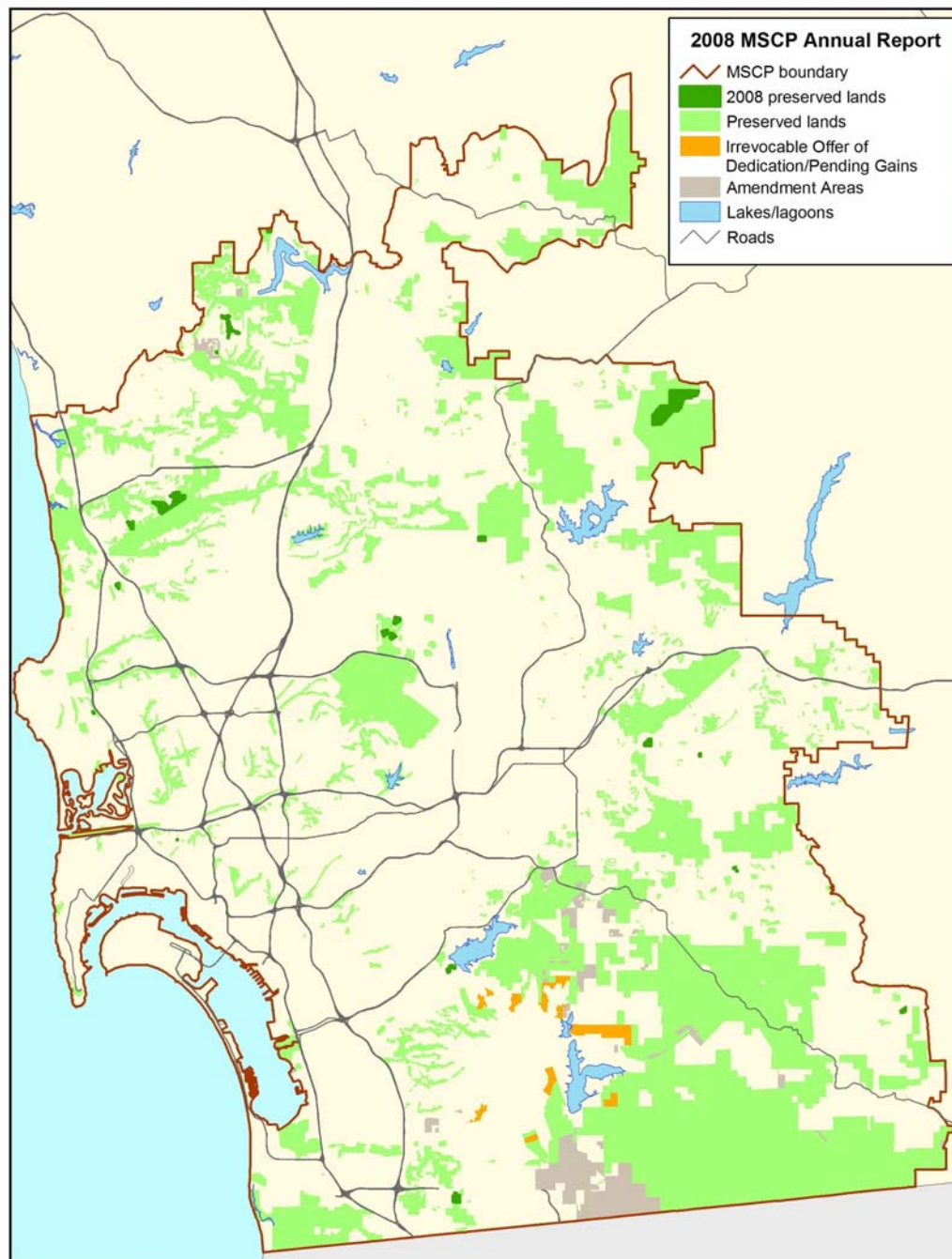


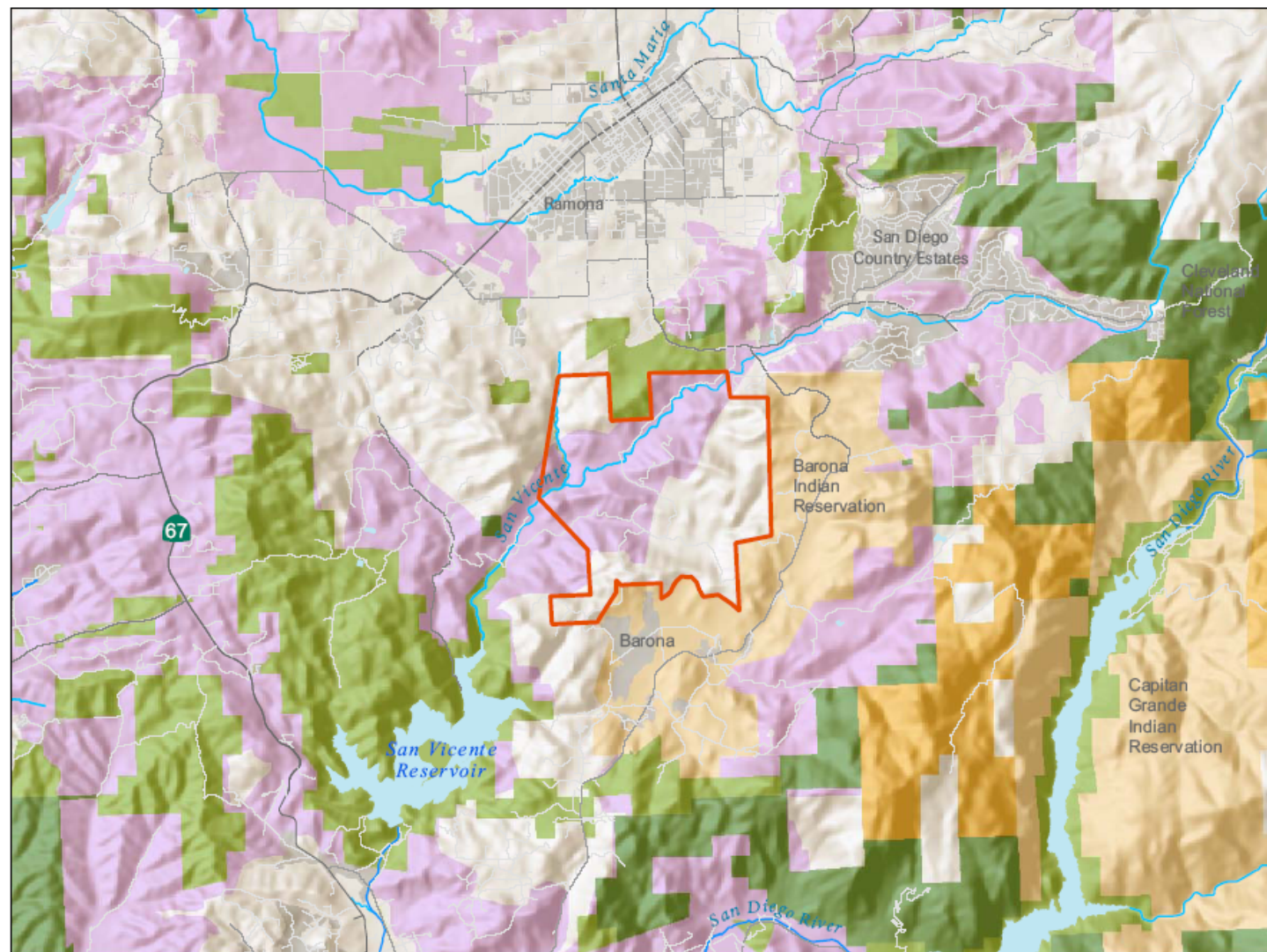


West Del Mar Mesa (Shaw Lorenz) Gain
130.67 Acres













Priorities

 Monte Vista

Land Owner

 US Forest Service
 City or County
 BLM
 Tribal Lands

Land Use

 Urban

NCCP

 Pre-Approved Mitigation Area





Water Bodies

 Lakes

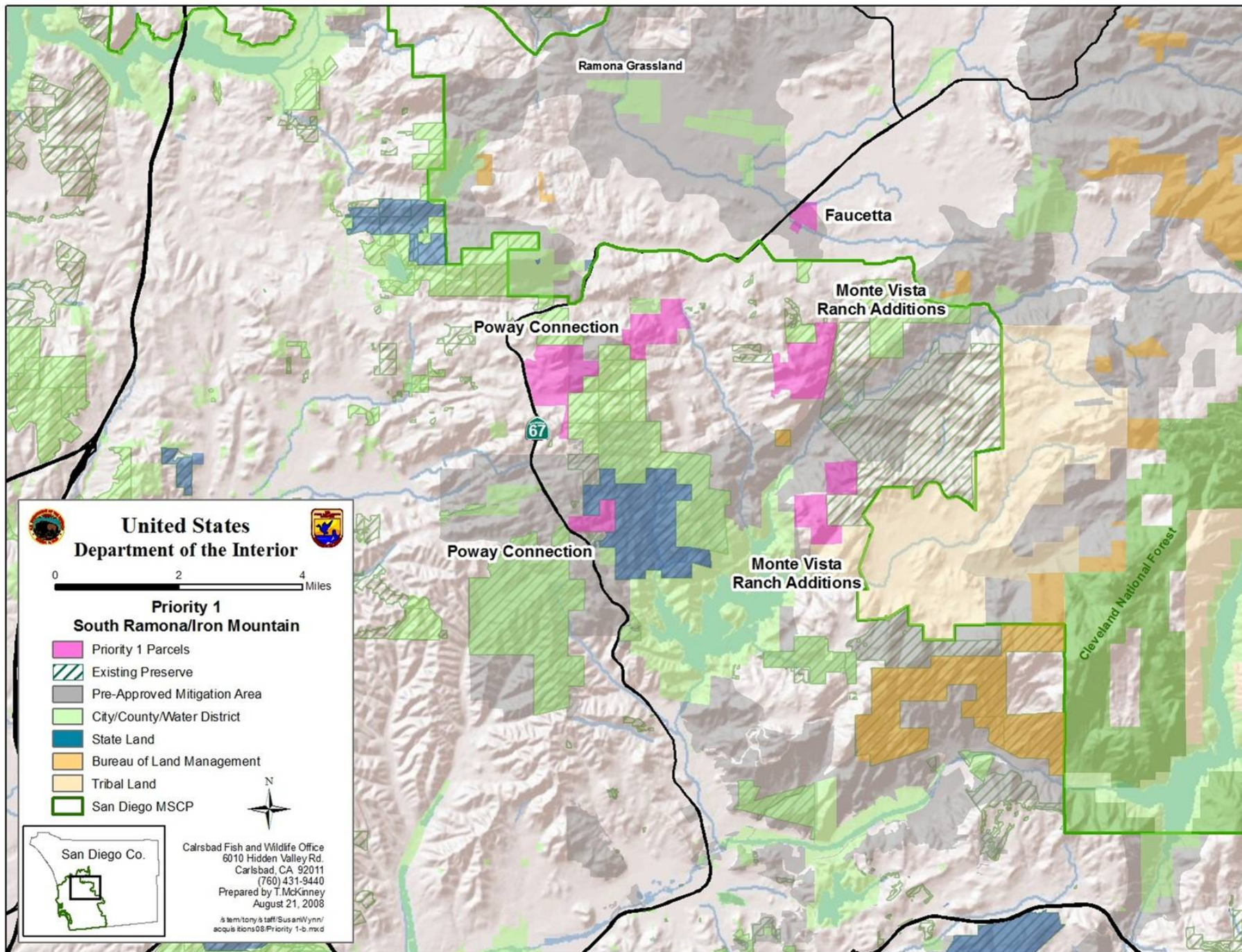
Rivers

 River
 Tributary

Roads

 Highway
 Major Road
 Main Road
 Minor Road

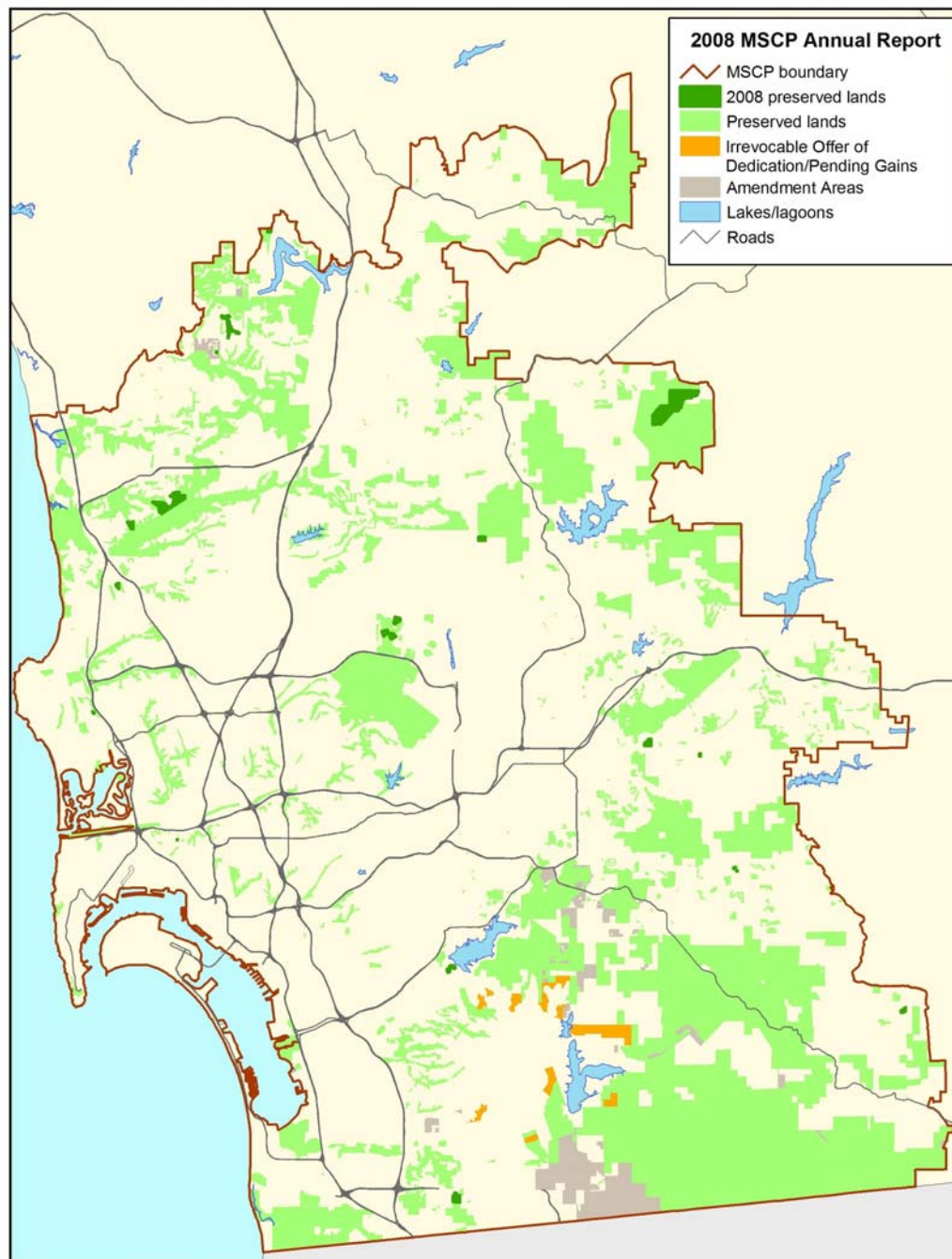


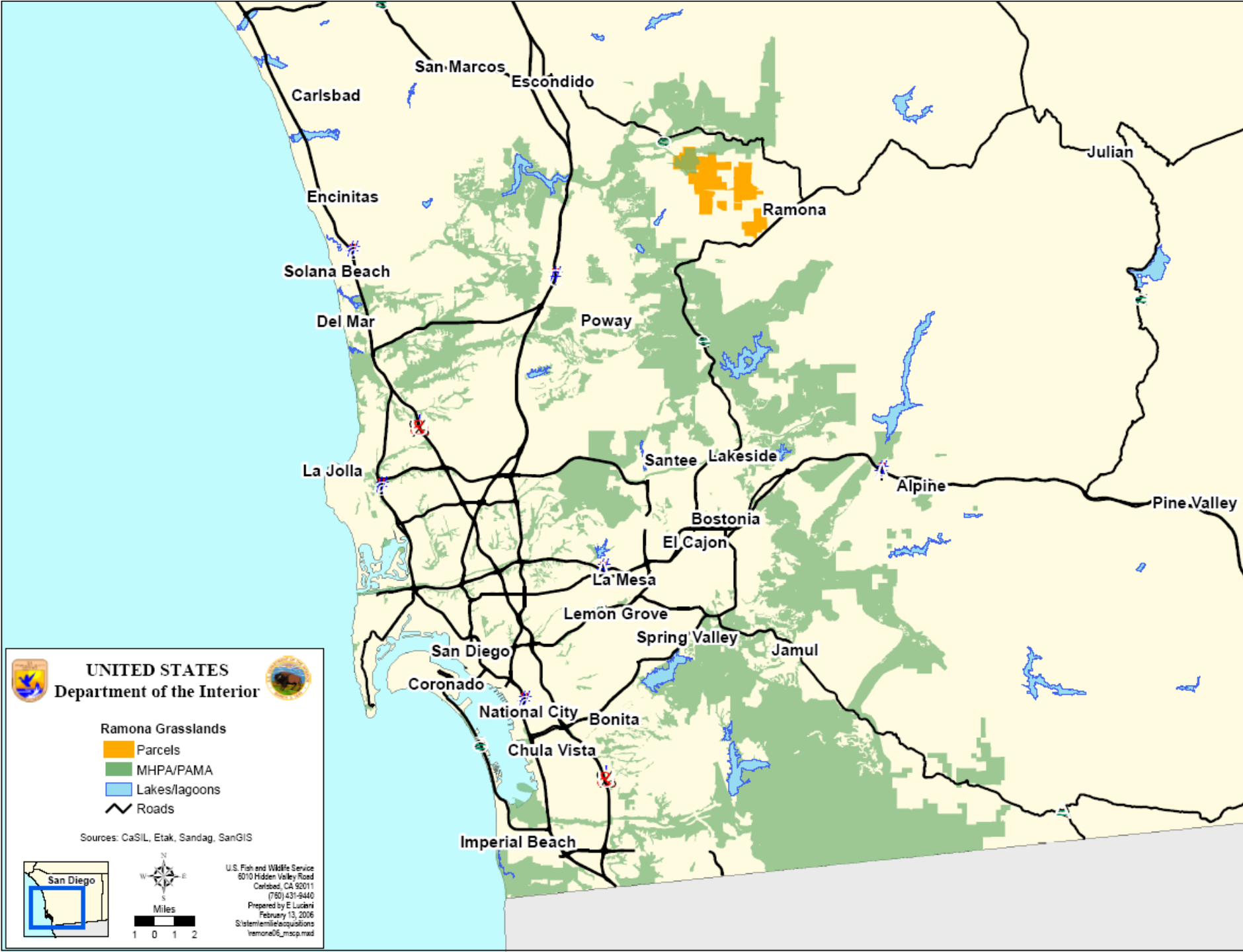


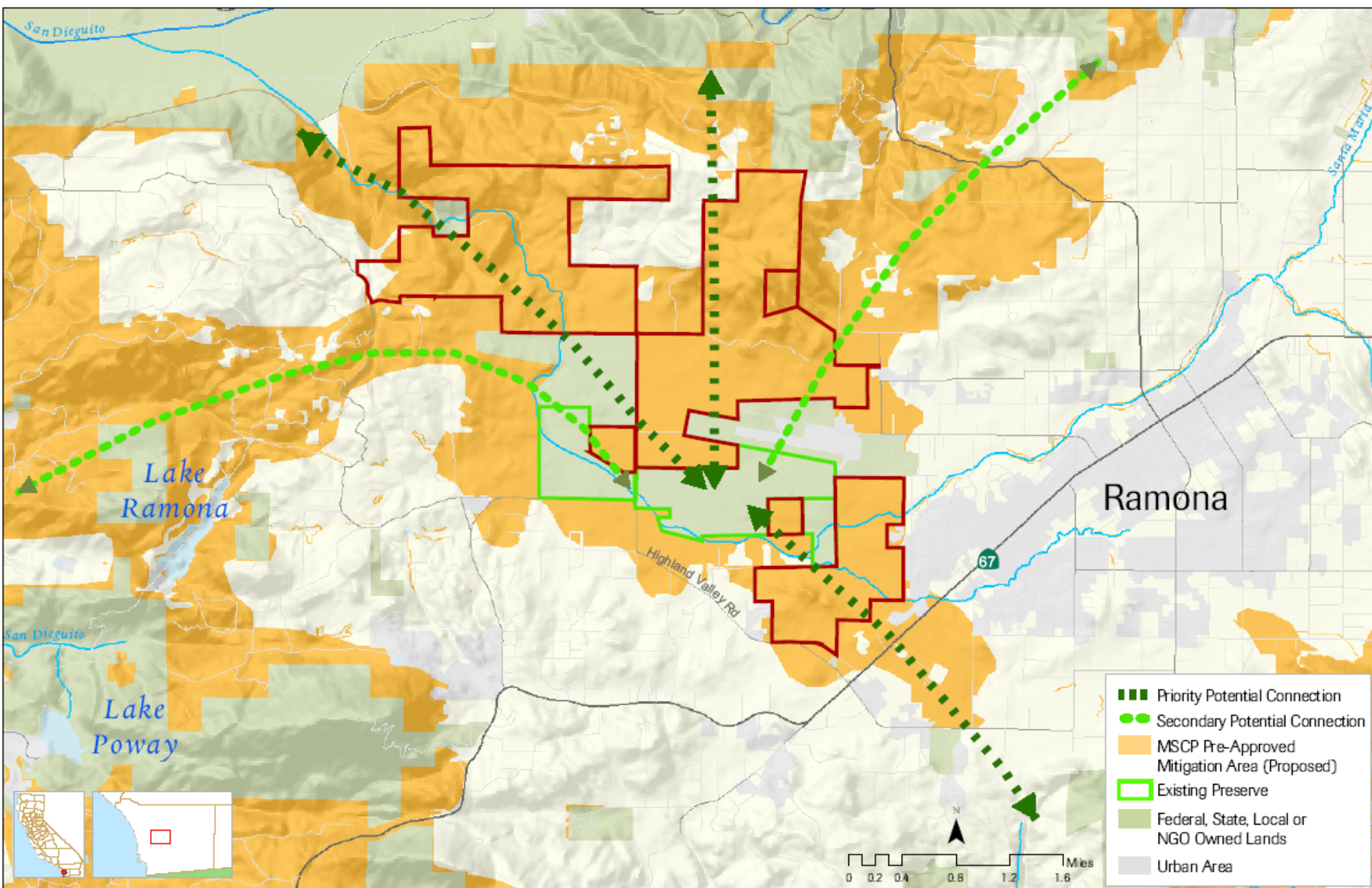


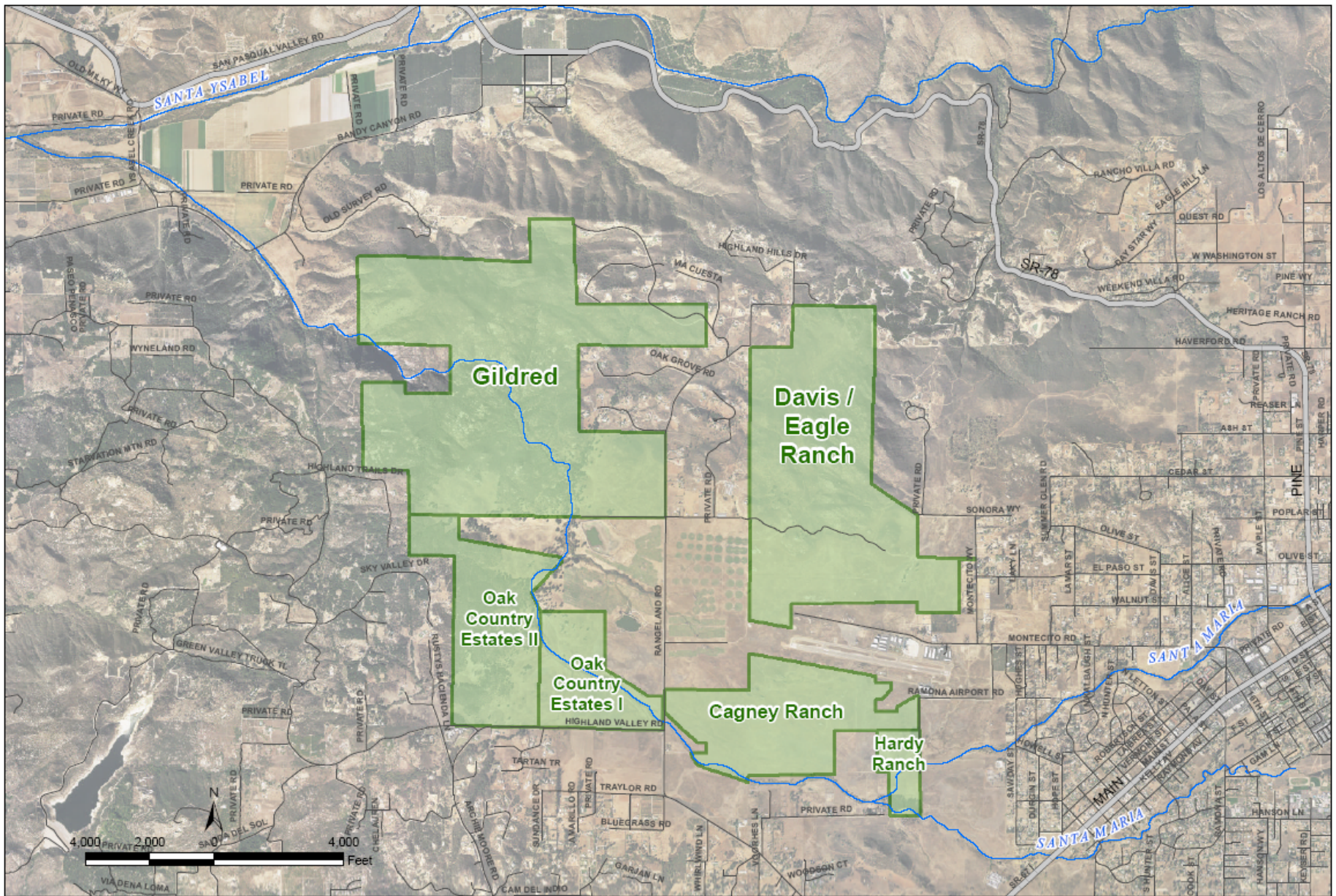












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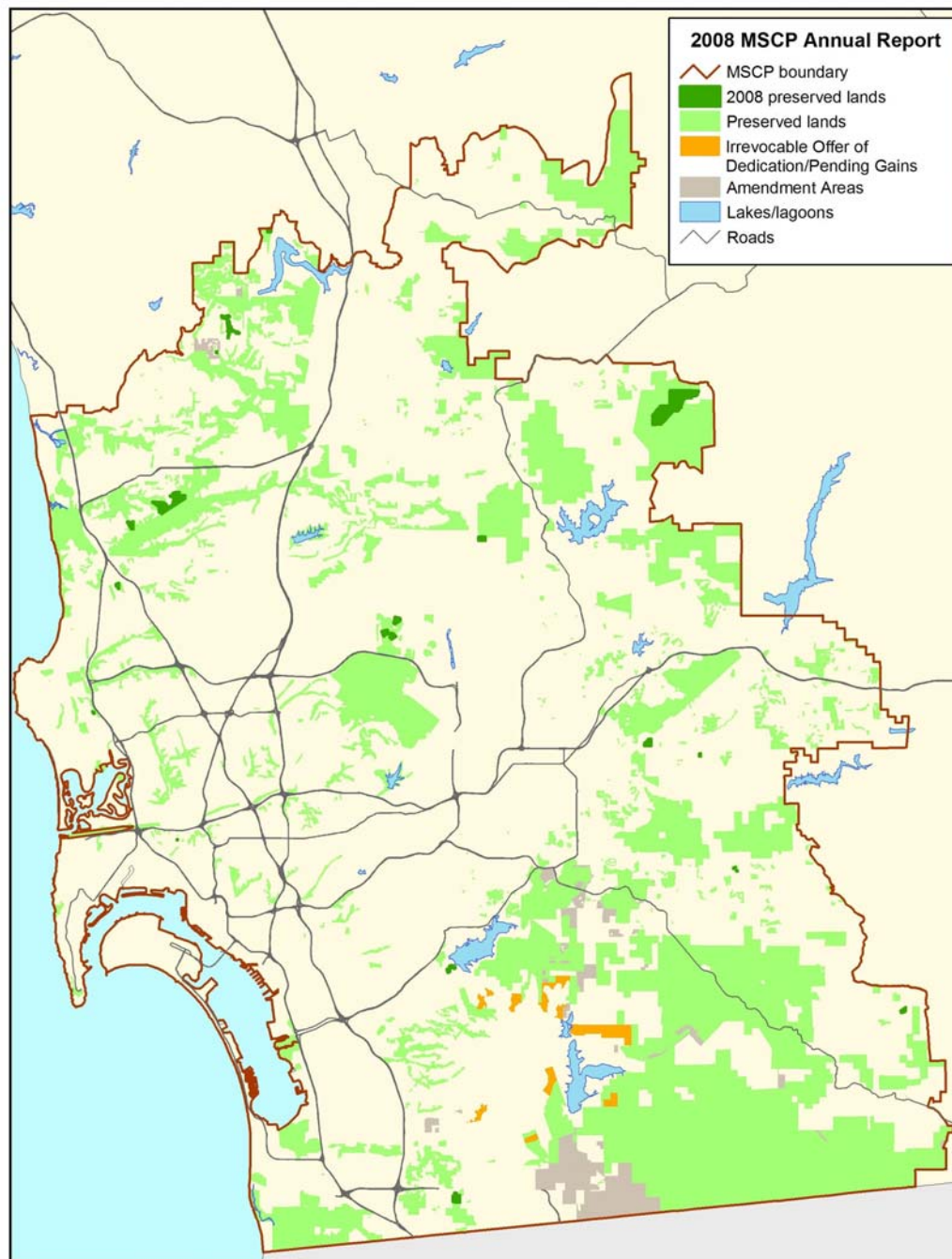


Figure 1A
Ramona Grasslands Preserve
All Properties Acquired
with State Funds

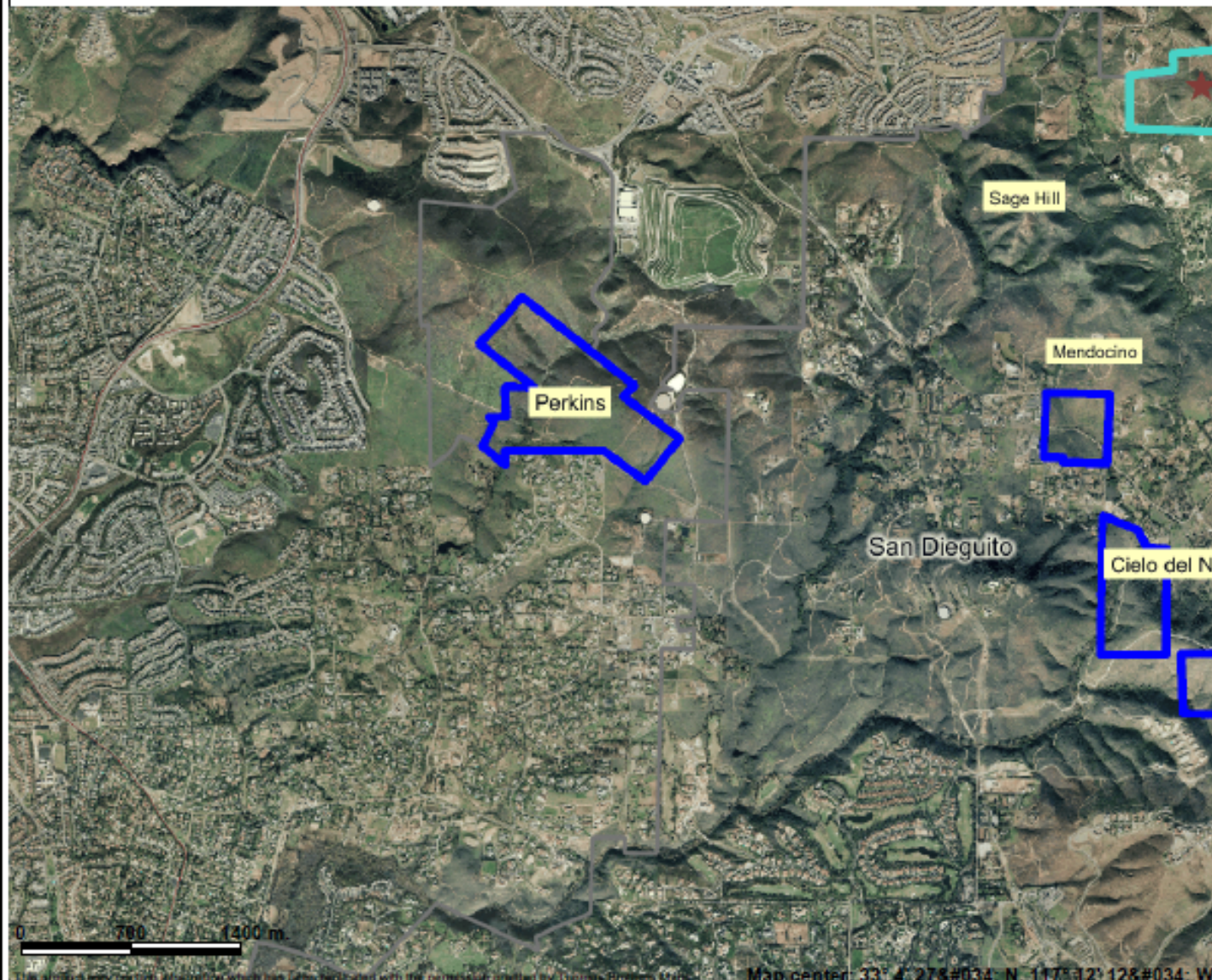








Aerial - MHCP- SCMSCP - NCMSCP



Legend

- Highways
- Freeways
- Water Bodies
- Water Bodies
- Sponsor Groups
- Sponsor Groups
- Other
- Community Planning Area
- Community Planning Areas
- 2008 Orthophoto South West
- 2008 Orthophoto South East
- 2008 Orthophoto North West
- 2008 Orthophoto North East

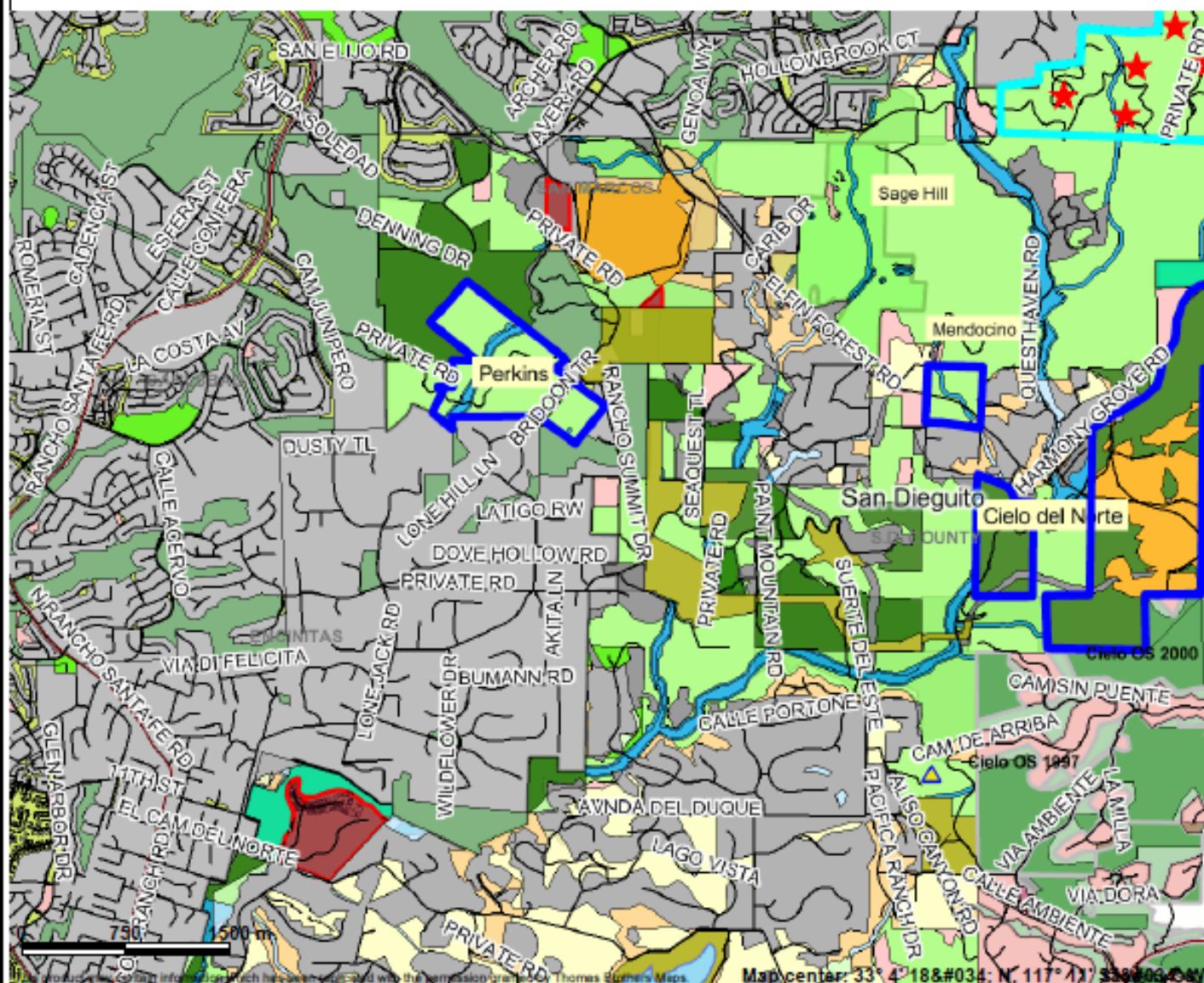


Scale: 1:38,515

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MSCP-NCMSCP-MHCP Connection



Legend

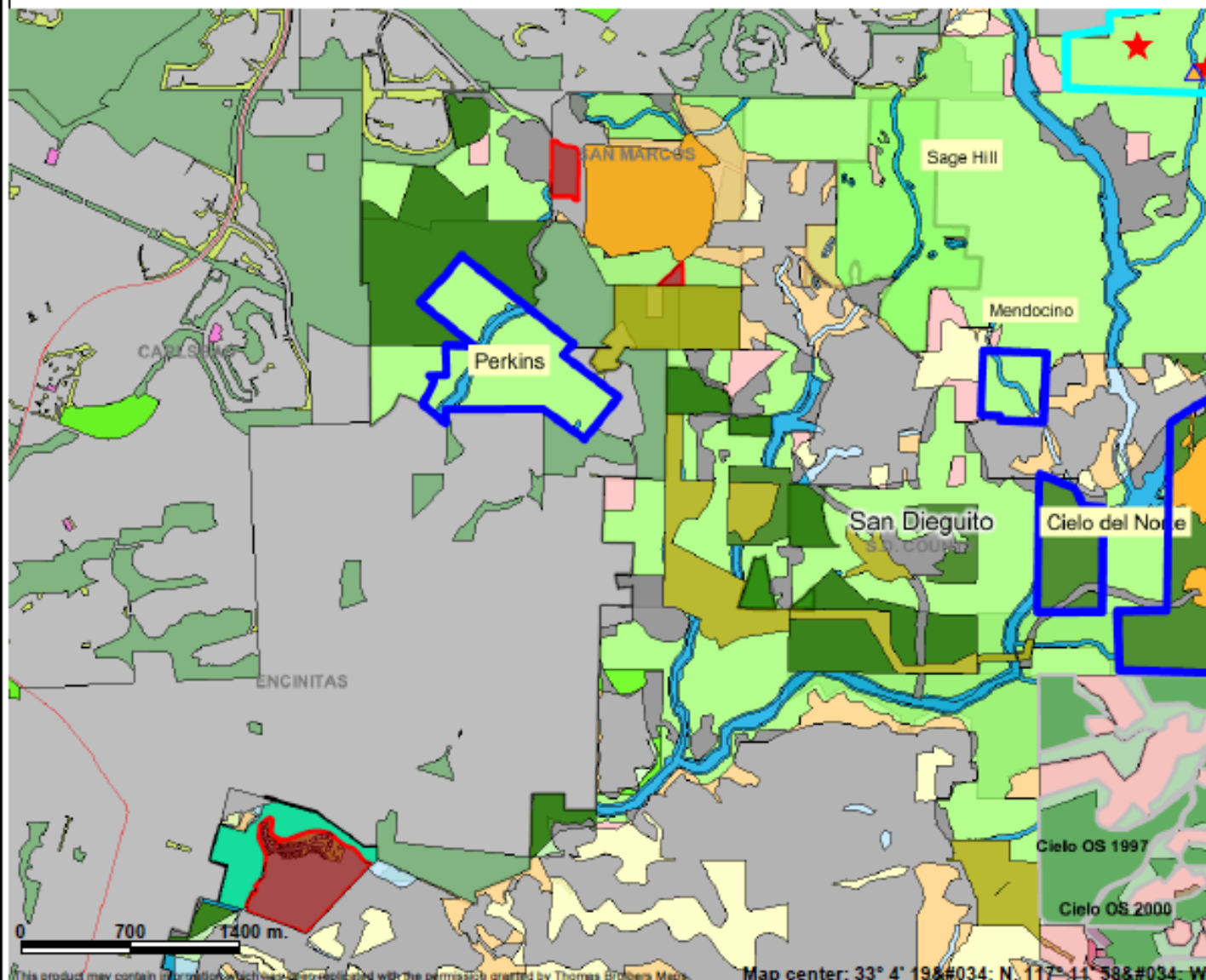
- Highways
Freeways
Streets
Water Bodies
Water Bodies
Habitrak 2005 Data
Habitrak Gain
Habitrak Loss
DPLU Version: DRAFT MSCP
Designations - North
Natural Upland Habitats outside PAMA
Urban/Developed outside PAMA
Urban/Developed within PAMA
Existing Agriculture Important for
Preserve Design
Existing Agriculture outside PAMA
Existing Agriculture Containing Habitat
Value Important for Coverage of a
Specific Species
Tribal or MHCSP City-owned
US Forest Service
Other Areas Not Covered
Natural Upland Habitat within PAMA
Natural Vegetation outside PAMA
Anticipated Project Uplands
Baseline Preserve Areas
Open Space Easement outside PAMA
Hardline Gains
Pre-negotiated (Hardlined) Take
Authorized Areas
Riparian/Wetland Habitat and
Transition Zone within PAMA
Riparian/Wetland Habitat and
Transition Zone outside PAMA
SR76 Project Area
Other

Scale: 1:43,505

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MHCP-SCMSCP-NCMSCP Core Area



Legend

- Highways
- Freeways
- Water Bodies
- Water Bodies
- Habitrak 2005 Data
- Habitrak Gain
- Habitrak Loss
- DPLU Version: DRAFT MSCP Designations - North
- Natural Upland Habitats outside PAMA
- Urban/Developed outside PAMA
- Urban/Developed within PAMA
- Existing Agriculture Important for Preserve Design
- Existing Agriculture outside PAMA
- Existing Agriculture Containing Habitat Value Important for Coverage of a Specific Species
- Tribal or MHCP City-owned
- US Forest Service
- Other Areas Not Covered
- Natural Upland Habitat within PAMA
- Natural Vegetation outside PAMA
- Anticipated Project Uplands
- Baseline Preserve Areas
- Open Space Easement outside PAMA
- Hardline Gains
- Pre-negotiated (Hardlined) Take Authorized Areas
- Riparian/Wetland Habitat and Transition Zone within PAMA
- Riparian/Wetland Habitat and Transition Zone outside PAMA
- SRT6 Project Area
- Other
- Parks - Existing Land Use



Scale: 1:38,515

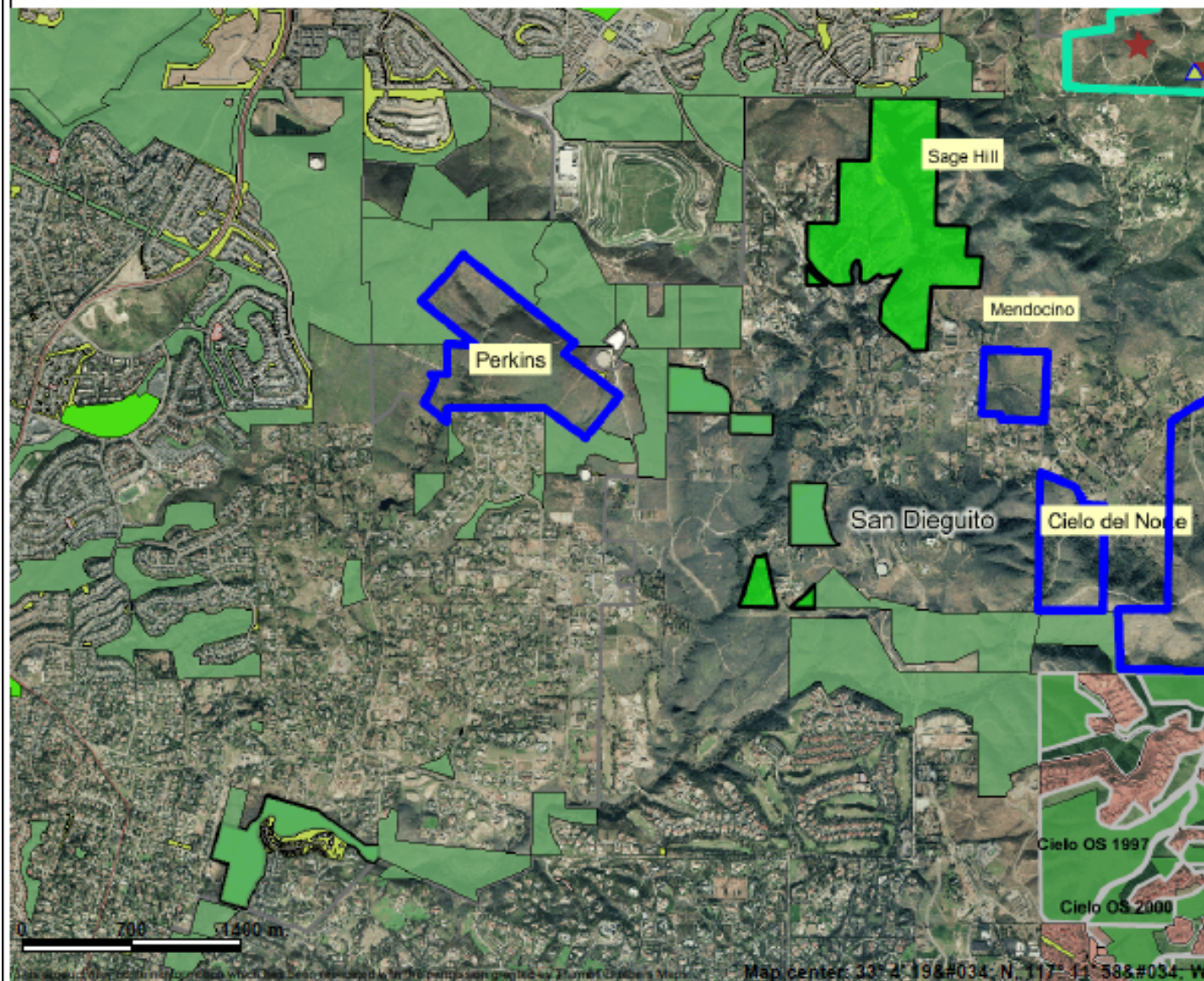
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Map center: 33° 4' 19.8#034; N, 117° 41' 38.8#034; W

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MHCP-SCMSCP-NCMSCP Core Area Aerial



Legend

- Highways
- Freeways
- Water Bodies
- Water Bodies
- Habitrak 2005 Data
- Habitrak Gain
- Habitrak Loss
- Parks - Existing Land Use (SANDAG)
- Active Use
- Passive Use
- Open Space Reserves Preserves
- Beach - Active
- Beach - Passive
- Landscape Openspace
- Residential Recreation
- Undevelopable Natural Areas
- County Parks
- Sponsor Groups
- Sponsor Groups
- Other
- Community Planning Area
- Community Planning Areas
- 2008 Orthophoto South West
- 2008 Orthophoto South East
- 2008 Orthophoto North West
- 2008 Orthophoto North East



Scale: 1:38,515

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Sage Hill Status

- Acquired: February 19, 2009
- 234-acres
- Acquisition Cost: \$11,000,000
 - Funded through:
 - *TransNet:* \$ 8,027,433
 - *County San Diego:* \$ 829,000
 - *WCB/Section 6:* \$ 2,143,567
- Owned by and Managed by County
 - Resource Management Plan underway



MSCP 2008 Annual Report Workshop August 26, 2009

U.S. Fish and Wildlife Service

San Diego National Wildlife Refuge Complex



MSCP Covered Species at Tijuana Estuary NWR and San Diego Bay NWR



Salt Marsh Bird's Beak



Light-footed Clapper Rail and chick



California Least Tern



Elegant Terns

Tern photos courtesy of Jack Daynes

San Diego Bay NWR Salt Pond Restoration



- Restoration begun with \$2.9 million NOAA grant and partnership with Port of San Diego – multi-year project
- Breach levees to allow tidal flow and elevate bottom to promote cord grass for the Light-footed Clapper Rail
- Maintain some open water with nesting islands
- Other hypersaline ponds with invertebrate populations retained for shorebird foraging

MSCP Covered Species at San Diego NWR

- **Least Bell's Vireo (Thanks USGS for surveys)**
Stable - 33 territories in 2009
- **San Diego Ambrosia**
Stable - increasing distribution through translocation; adding protection
- **San Diego Thornmint**
Stable - new occurrence on McGinty Mountain



Non-covered Species

- **Quino Checkerspot Butterfly**
Status inconclusive. Low numbers (up to 7 in 2009)
Wide distribution on Refuge at 6 locations (4 new), but not detected at 4 recent locations



San Diego NWR Vernal Pool Restoration

- 30-acre restoration begun spring 2007
- Transnet grants will fund continued restoration
- Native plants cautiously emerging and soil crusts developing
- SD Fairy Shrimp distribution increasing – now in 7 pools (6 created; 1 natural)
- Also supports Otay tarplant, California gnatcatcher, burrowing owl, San Diego barrel cactus
- High potential for spreading navarettia and other vernal pool species

Burrowing Owls at Sweetwater Authority and San Diego NWR



Nest box installation

- 15 boxes at SWA in Dec. 2006
- 10 boxes at SDNWR in Sept. 2007

Immediate owl occupancy at both sites

- Owls from SWA went to SDNWR in 2007
- Released 5 sibling captive-born owls





Pete Famolaro, SWA, scopes through peephole



Burrowing Owl Nest
Monitoring

Burrowing Owls at San Diego NWR



Spring 2008

- One breeding pair
 - one brood of 3 young

Spring 2009

- Three breeding pairs and a single owl
 - three broods totaling 10 young

July 2009

- At least 17 owls present and all banded

Next Steps

- Weed control for vernal pools - maintains open habitat for owls
- Soft-release captive owl
- Install more nest boxes in restoration area east of current site



Cactus Wrens at San Diego NWR Cooperation with many partners

- **Currently only one pair of Cactus Wrens, shared with Sweetwater Authority**
- **Coordination with Working Group**
- **Transnet grant for habitat enhancement on 139 acres**
- **November 2008: Salvaged cactus from Bayshore Bikeway on San Diego Bay NWR**
- **January 2009: Volunteer crew planted 6,000 cholla cuttings and 15 mature plants into cactus farm at CA Fish and Game's Rancho Jamul Ecological Reserve**
- **Cuttings weeded and watered, over 99% have new growth, often multiple branches from 5-25 cm long**
- **Will transplant to the field in winter 2009-2010. Looking for additional salvage opportunities**



Otay Tarplant at San Diego NWR

- 67-acre restoration area
- De-thatched spring 2005 followed by weed control, seed collection, planting of natives
- Weed cover and soil seed bank greatly reduced. Survival and growth of planted native grasses and shrubs has improved habitat quality on site
- Otay tarplant remains abundant, extensive, and productive
- In 2010, will continue weed control, broadcast hundreds of pound of annual plant seeds including Otay tarplant, and plant additional container stock

Harris Fire Recovery



- Fire burned over 4,137 acres of 8,500-acre Refuge in October 2007
- Quino checkerspot butterfly was most sensitive species severely affected by fire - Rehabilitation focuses on quino habitat
- 128 acres in 4 ridge top polygons de-thatched and received selective weed control with herbicide
- Polygons are monitored for treatment effectiveness
- Additional acreage for a total of 356 acres will be treated in late 2009 through 2011; will likely include reseeding with native species in the future
- Rehabilitation will benefit quino and more species including gnatcatcher and cactus wren

More projects at San Diego NWR

- **Wildland Urban Interface Program**
5-year project to remove exotic, invasive plants to reduce hazardous fuels along 4.6 miles of Sweetwater River and its tributaries
- **Native Grasslands**
30-acre area with some native grass and Otay tarplant was weed treated in 2008-2009. Plans for future active restoration of native grasses, sage scrub, cactus
- **Western Bluebirds**
12 nest boxes installed by Youth Conservation Corps; more to come!



2008 YCC crew



2009 YCC crew



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2009

Coastal California Gnatcatcher
Coastal Cactus Wren
Surveys in San Diego County



Goals

- Percent Area Occupied
 - Coastal California Gnatcatcher
 - Coastal Cactus Wren
- Population Estimate
 - Coastal California Gnatcatcher (only)
- Better understanding Habitat Requirements
- Examine the impacts of recent wildfires

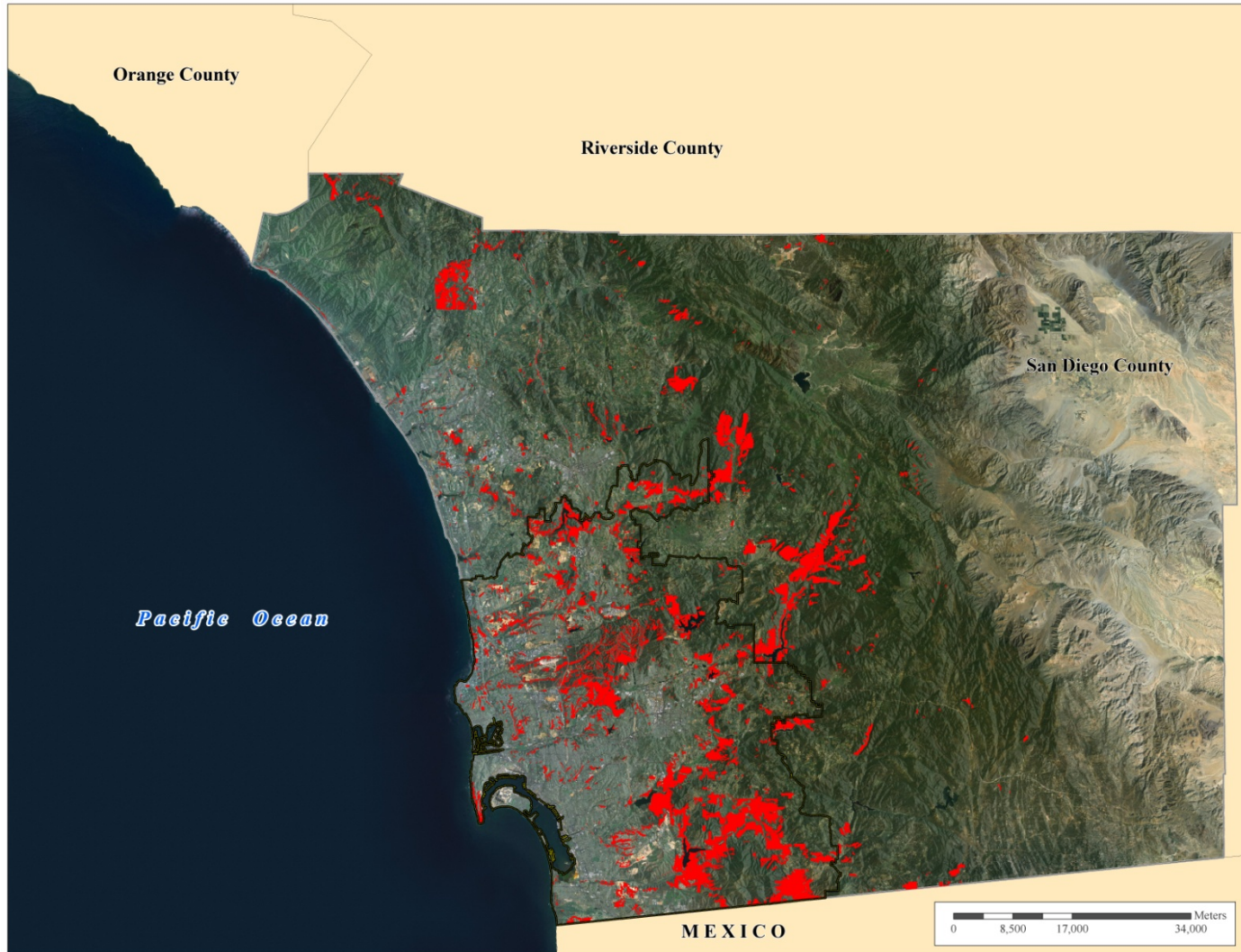


Coastal California Gnatcatcher

- 2002
 - Combined Survey Orange & San Diego Counties
 - Public and Quasi Public Lands
 - Cannot sub set
- 2004
 - Surveyed MSCP Preserve Lands
 - Included lands impacted by 2003 wildfires
 - No military lands
- 2007
 - Surveyed Public and Quasi Public Lands San Diego County
 - Included MSCP Preserve lands
 - Included lands impacted by 2003 wildfires
 - Included NWS Fallbrook and MCAS Miramar
- 2009
 - Surveyed Public and Quasi Public Lands San Diego County
 - Included MSCP Preserve lands
 - Included lands impacted by 2003 wildfires
 - Included NWS Fallbrook and MCAS Miramar



Coastal California Gnatcatcher Sample Frame



Coastal California Gnatcatcher

Implement Random Stratified Sampling

- Concentrate effort in higher quality strata



Coastal California Gnatcatcher

- Stratified by Habitat Type and Burn History
- Number of Points Surveyed
 - 443 Points
 - 57 of 79 Points Surveyed in Burned Very High Quality Habitat
 - 37 of 54 Points Surveyed in Burned High Quality Habitat
- Grid is 600 meter X 600 meter Spacing
- Points are surveyed 6 times
 - Presence/Absence
 - Auditory Removal
 - Distance data



Coastal California Gnatcatcher Vegetation Data

- Plant Transect
 - Conform to SDSU protocols for measuring changes in plant communities
 - Two 50 meter transects centered at survey point
 - Took measurements every meter
 - Measured species present at each point
 - Measured height of plants



Coastal California Gnatcatcher Vegetation Data

- Plant Transect
 - 76 Points
 - 152 Transects
 - All points with CAGN 2004 and 2007
 - All points with CAGN either 2004 or 2007
 - Randomly selected points with no CAGN



Coastal California Gnatcatcher Photo Plots

- All points photographed (N/E/S/W)
 - Surveyed in 2007 and 2009
- Points that were burned in Harris Fire located on the Refuge were photographed in November 2008
 - 27 Points have plant transect data collected prior to 2008 fires.



Coastal California Cactus Wren

- MSCP Preserve Lands

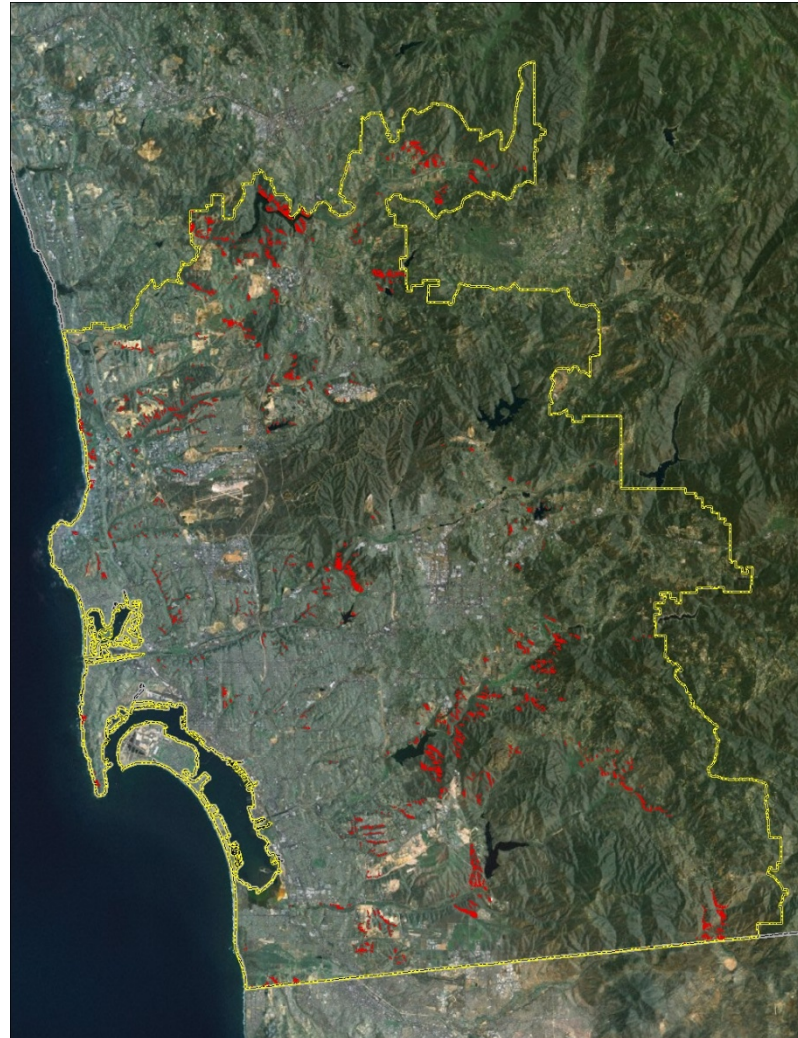


- Mapped cactus on southwest facing slopes below 1,500 feet

- First year of surveys



Coastal Cactus Wren Sample Frame



Coastal California Cactus Wren

- Mapped
 - 574 cactus patches
 - 3 or more cactus
 - Greater than 75 centimeters tall
 - Within 15 meters of each other
- Surveyed
 - 355 plots
 - Plots are mapped cactus patches > 0.1 hectares
 - Presence/Absence Surveys
 - Used play back Tapes
 - Visited 3 times



Coastal California Cactus Wren

- Habitat Measurements

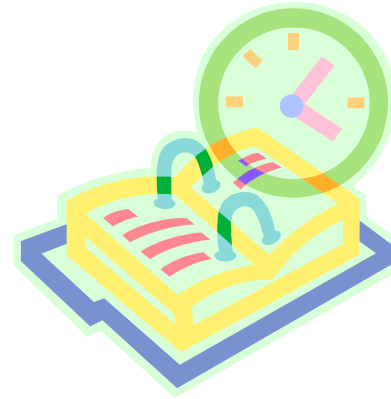
- Number of Prickly Pear
 - Over 75 centimeters
- Number of Cholla
 - Over 75 centimeters
- Average Height of Patch
- Elderberry on Patch
 - Number
 - Distance to
- Classified cactus patch to match Orange County



Future Plans

- Coastal Cactus Wren

- 2010 next survey
- Scheduled yearly



- Coastal California Gnatcatcher

- 2012 next survey
- Scheduled every 3 years



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Logo
here



TransNet Environmental Mitigation Program

Biological Mitigation Fund

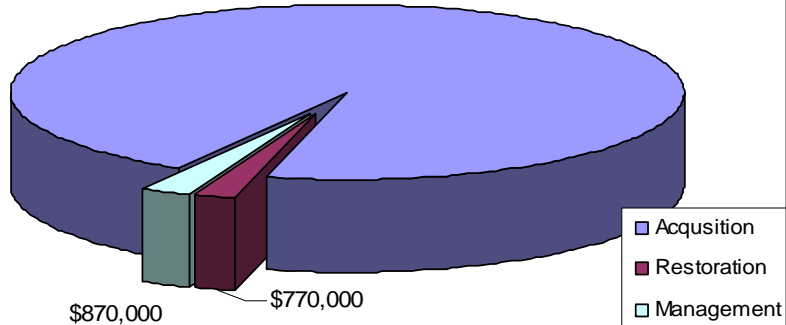


Regional Habitat Conservation Fund

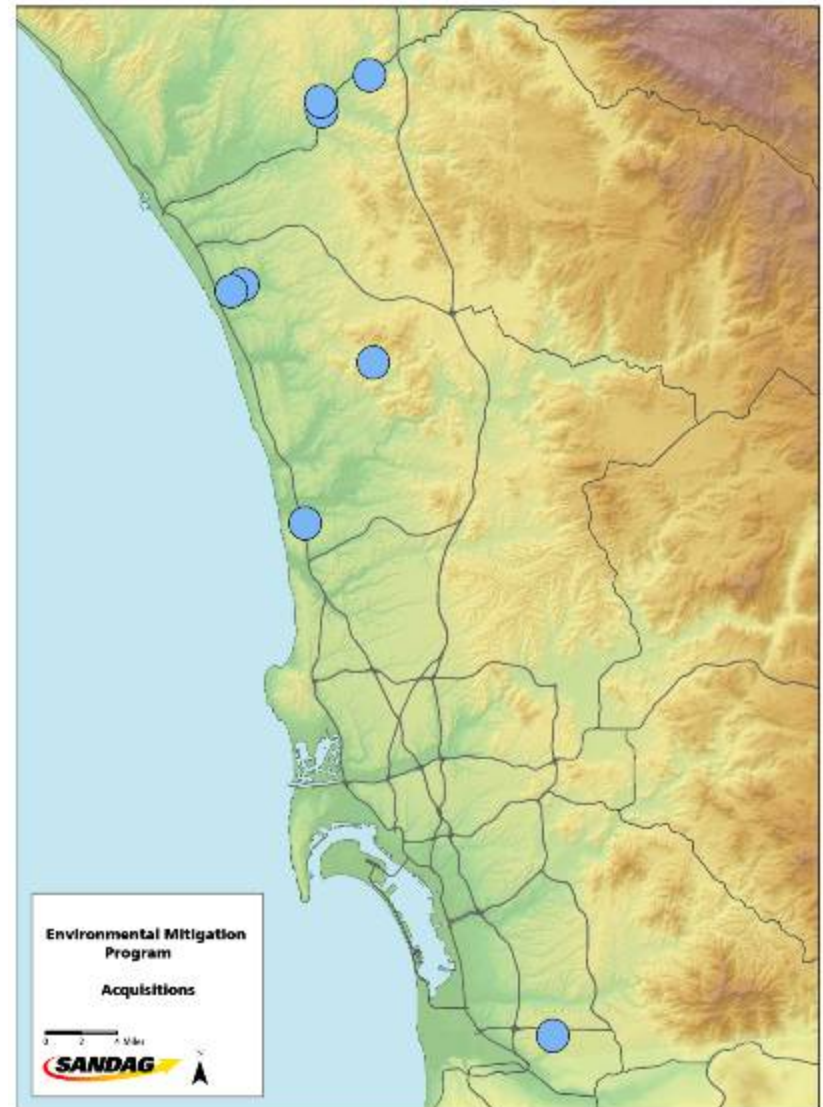
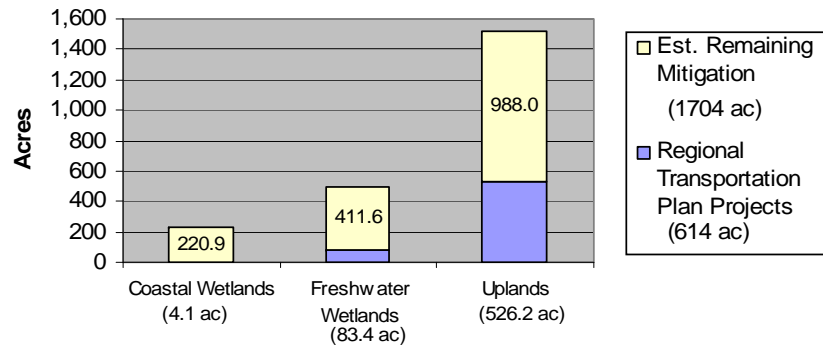


**TransNet Environmental Mitigation Program
Mitigation Costs as of July 2009**

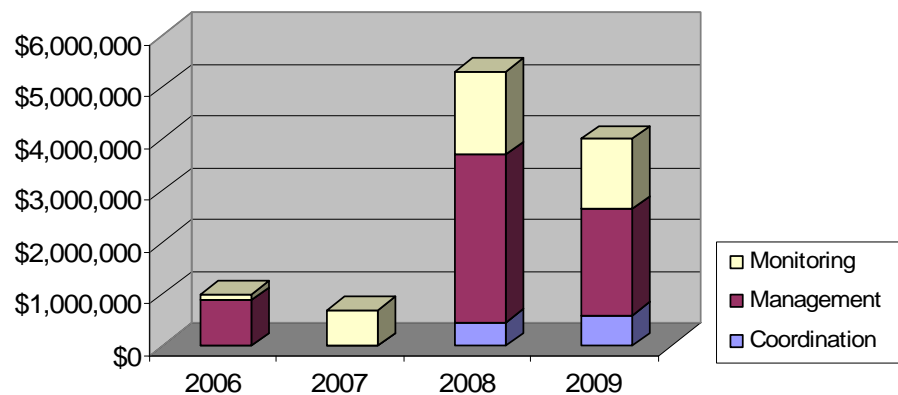
\$35,008,633



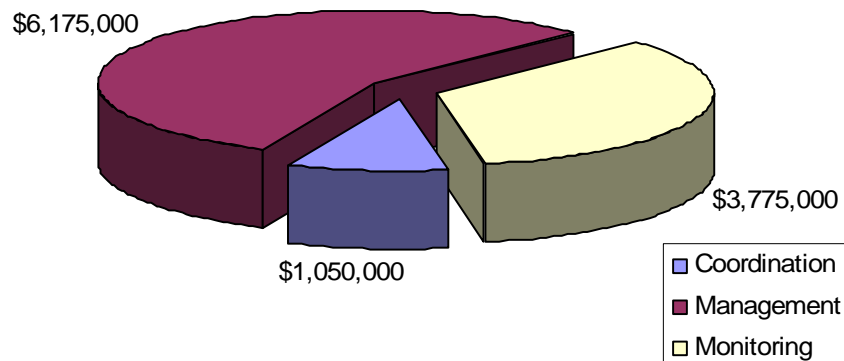
**Estimated Remaining Mitigation Needs:
Regional Transportation Plan Projects as of July 2009**



Encumbrances by Fiscal Year



Conservation Fund Encumbrances by Category as of July 2009



Regional Monitoring Efforts Funded by SANDAG

- California Gnatcatcher (USFWS)
- Cactus Wren (USFWS)
- Burrowing Owls (BioResources)
- Post Wildfire Recovery (USGS)
- Rare Plant Protocols (USGS)
- Habitat Monitoring (SDSU)
- Thorne's Hairstreak Butterfly (UNR)
- Vegetation Mapping Update (EDAW/CDFG)
- OHV Enforcement (SD Sheriffs/CDFG)
- Regional Management and Monitoring Coordination





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County of San Diego



South County Plan Summary

- Funding
- Acquisitions
- Preserve Management

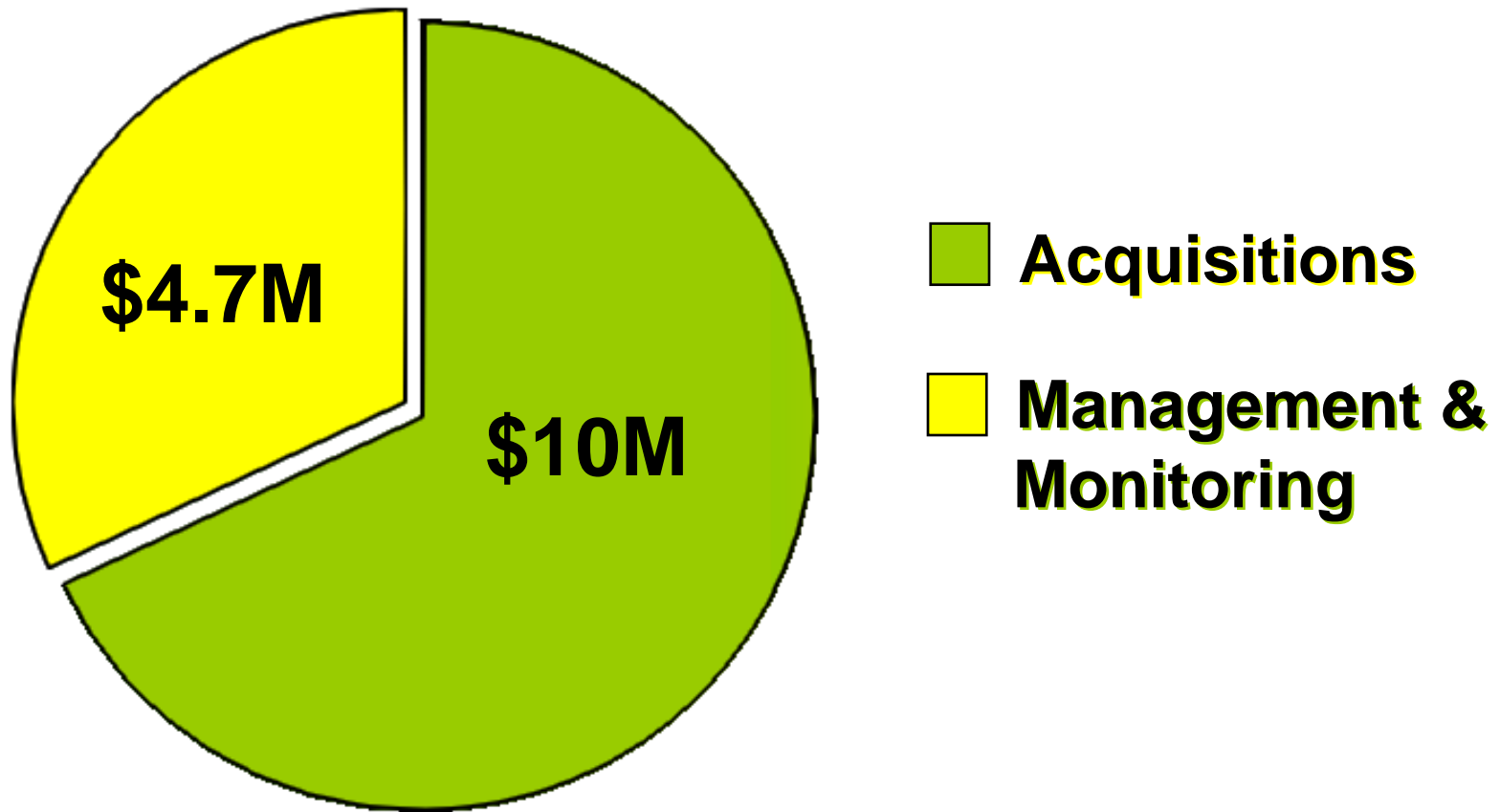
Updates

- North County Plan
- East County Plan
- Quino Checkerspot Butterfly Amendment



Photo: Courtesy of Guy Bruyey

Funding: FY 2007/08



2008 County Acquisitions



South County

- 10 acres (Del Dios Highlands)
- 20 acres (Sycamore Canyon)

North and East County

- 3,561 acres (Ramona Grasslands)

Cumulative

- 4,750 acres (South County)
- 10,553 acres (North and East County)

MSCP Preserve Management



Resource Management Plans

- Boulder Oaks Preserve
- Lakeside Linkage Preserve
- Available online: http://www.co.san-diego.ca.us/parks/management_plans.html

Baseline Surveys

- Del Dios Highlands
- Sycamore Canyon/Goodan Ranch
- El Capitan Suite
- Lusardi Creek
- Otay Ranch Preserve





North County Plan

- Northwestern unincorporated area
- 294,849 acres
- 63 plant and animal species to be covered
- Some specific environmental issues:
 - SR 76 expansion along San Luis Rey River.
 - Vernal pools in downtown Ramona.
 - Role of agricultural lands in conservation.

Communities

Bonsall

De Luz

Fallbrook

Harmony Grove

Lilac

Pala

Pauma Valley

Rainbow

Ramona

Rincon Springs

Twin Oaks Valley

Valley Center

North County Plan: Next Steps



- Comments received on preliminary draft Plan available online and being used to revise the Plan
- Public review of draft EIR/EIS and revised draft North County Plan - by Dec. 2009





East County Plan

- Preliminary draft preserve map released in December of 2008.
- Map available online.
- On hold until June 2010





Quino Amendment

- Listed as endangered shortly before South County Subarea Plan approved in 1997.
- At the time, not enough information for coverage.
- County then began amendment process.



Quino Checkerspot Butterfly - Courtesy of Fred Roberts



Quino Amendment Timeline

- Conservation Policy Summer 2009
- Management/Monitoring Plan Summer 2009
- Financing Plan Fall 2009
- Draft EIR/EIS public review Spring 2010
- Final EIR/EIS public review Fall 2010
- Board of Supervisors Spring 2011
- Implementation Spring 2011



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City of San Diego

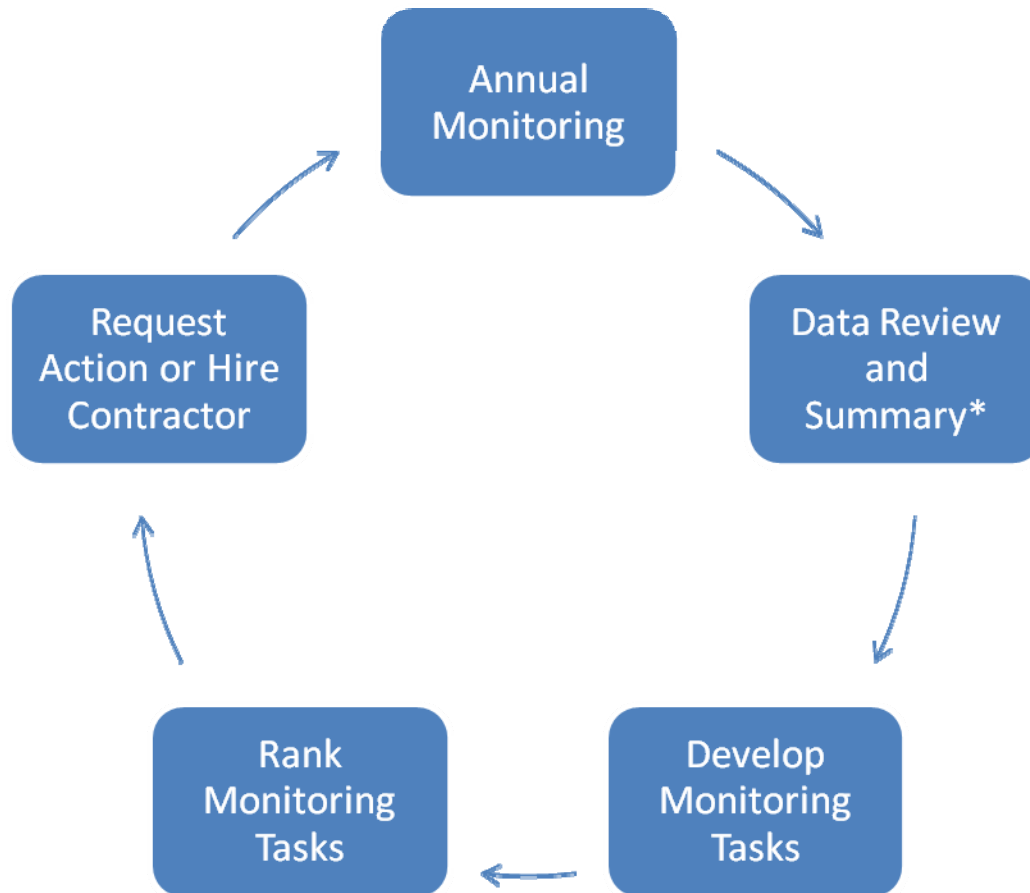
- Rare species monitoring
 - 20 plants at 32 sites
 - Largest effort to date
 - Methods based on USGS 2006 recommendations
 - Adaptive management based on monitoring results



Cylindropuntia parryi var. *serpentina*
is monitored annually at Balboa Park,
Spring Canyon and Otay Mesa



City of San Diego

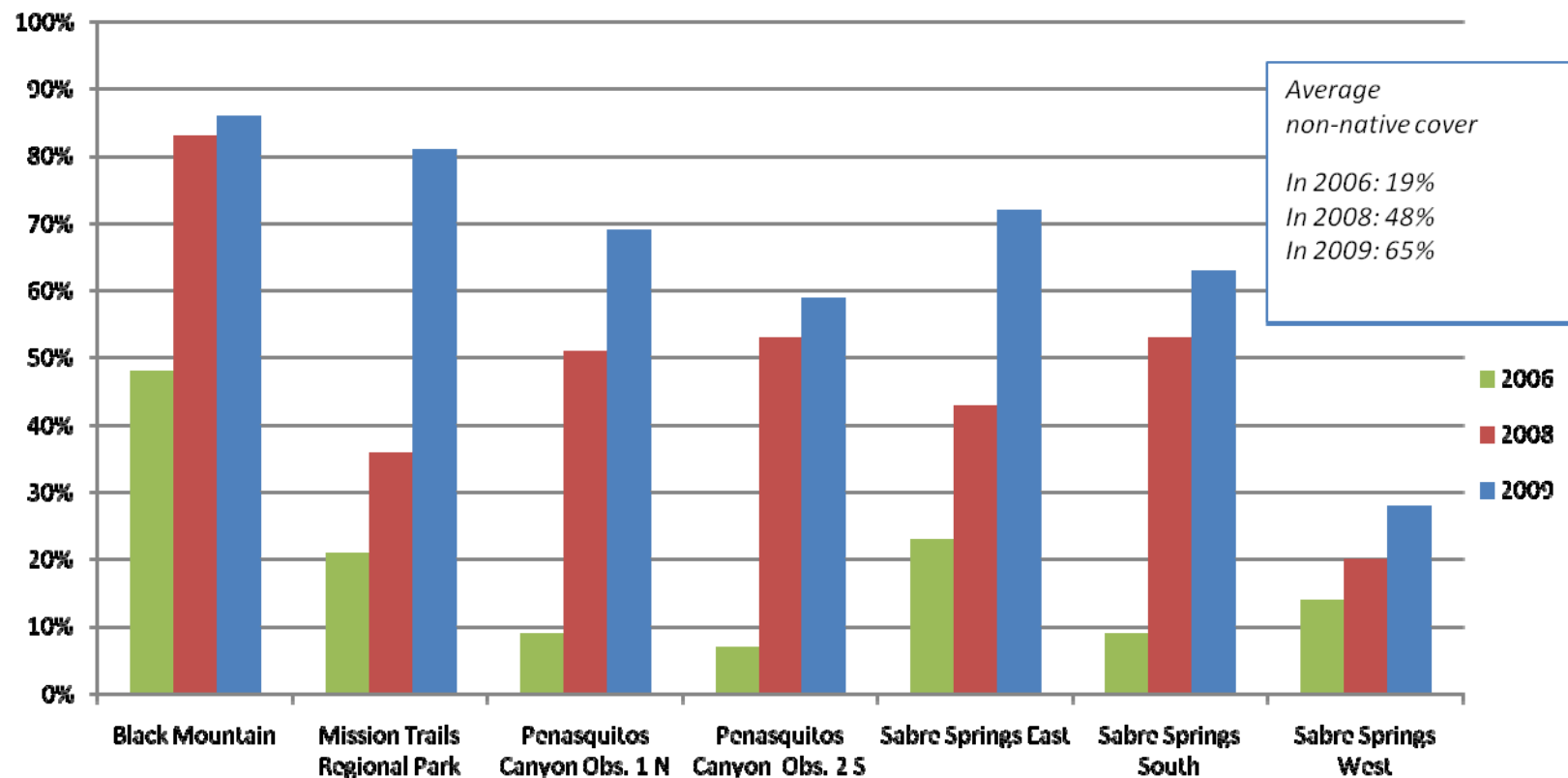


Acanthomintha ilicifolia is monitored at Sabre Springs, La Zanja, Los Peñasquitos, Dennerly Ranch and Mission Trails



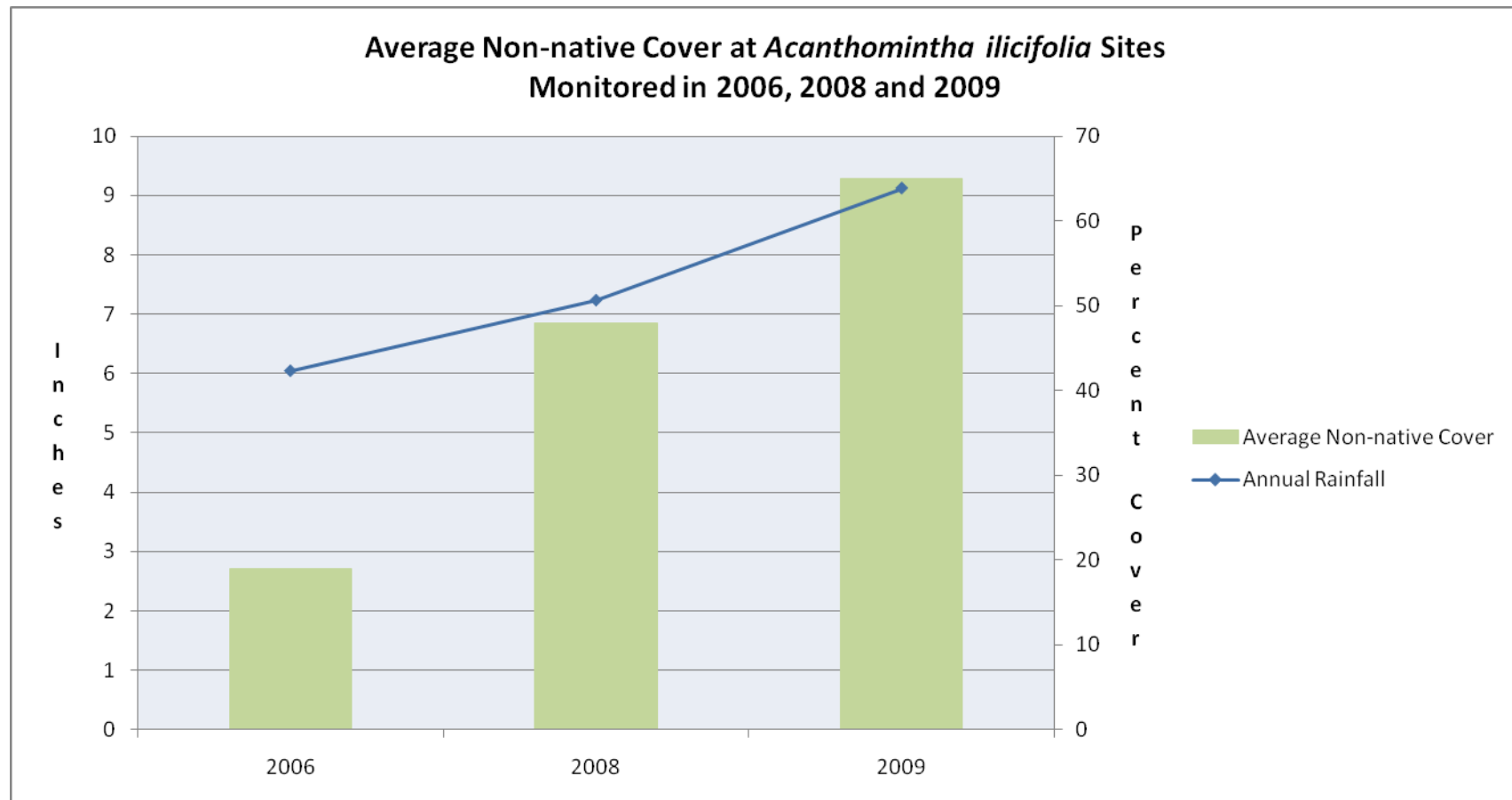
City of San Diego

**Non-Native Cover at *Acanthomintha ilicifolia* Populations
2006, 2008 and 2009**





City of San Diego



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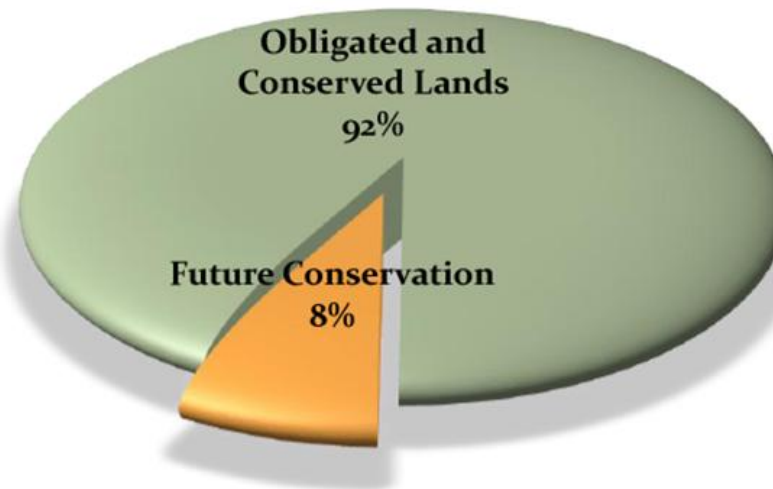


City of San Diego

As of Dec 2008	Acres
Obligated and Conserved Lands	48,440
Future Conservation	4,287

City of San Diego MSCP Conservation

Total Conserved and Obligated Land: 48,440 Acres, or 92% of City's 52,727 Acre MSCP Obligation



Notes: 1) Conserved Lands have been conserved via fee title or conservation easement; 2) Obligated Lands have been entitled by the City, have pending conservation easements, or have existing mitigation bank agreements in place; 3) Future



City of San Diego

- Grant for acquisition (2008)
 - Focus on Otay Mesa vernal pools
 - \$4,918,000 from U.S. Fish and Wildlife Service
 - \$518,000 from City of San Diego



Maritime Succulent Scrub and
Vernal Pools in Otay Mesa



City of San Diego

- Management activities
 - 35+ invasive removal projects
 - Often in partnership with non-profit organizations and “Friends” groups
 - Removal of transient camps and trash
 - 300+ tons of trash/debris

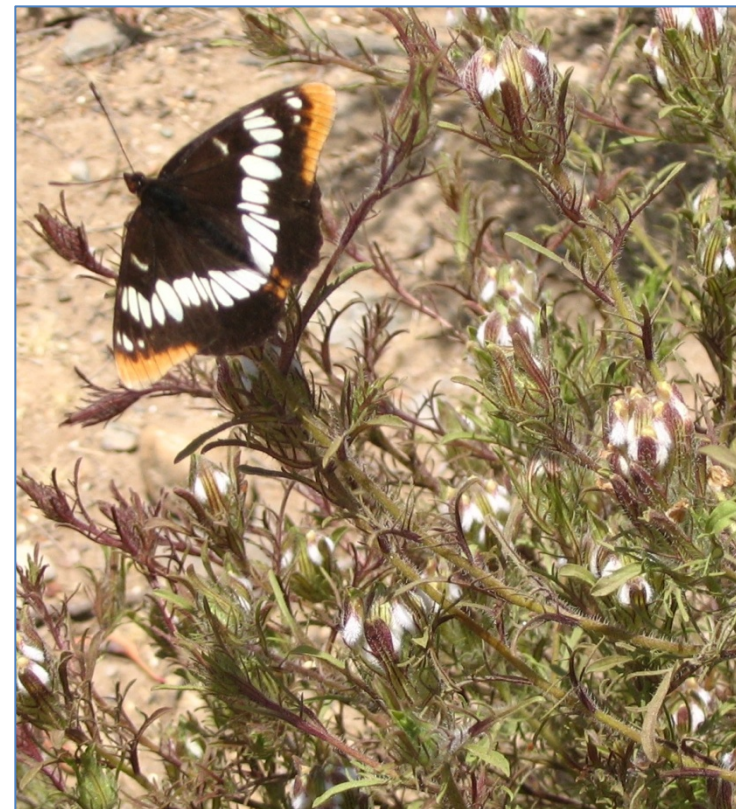


Volunteers carry trash out of Deer Canyon in the Del Mar Mesa Preserve



City of San Diego

- Management activities
 - ORV deterrent structures
 - Dennergy Canyon
 - Proctor Valley
 - Otay Valley Regional Park
 - Del Mar Mesa
 - Open space code compliance officer investigated 309 cases
 - Full-time herbicide applicator (new position)



Lorquin's Admiral on *Cordylanthus orcuttianus*
in Otay Valley Regional Park



City of San Diego

- Education
 - Educational programs presented to over 9,000 children
 - 3,496 volunteers assisted in managing open space lands in 2008



Ranger Jeff and Jr Volunteer Casey give a live snake presentation to a group of schoolchildren



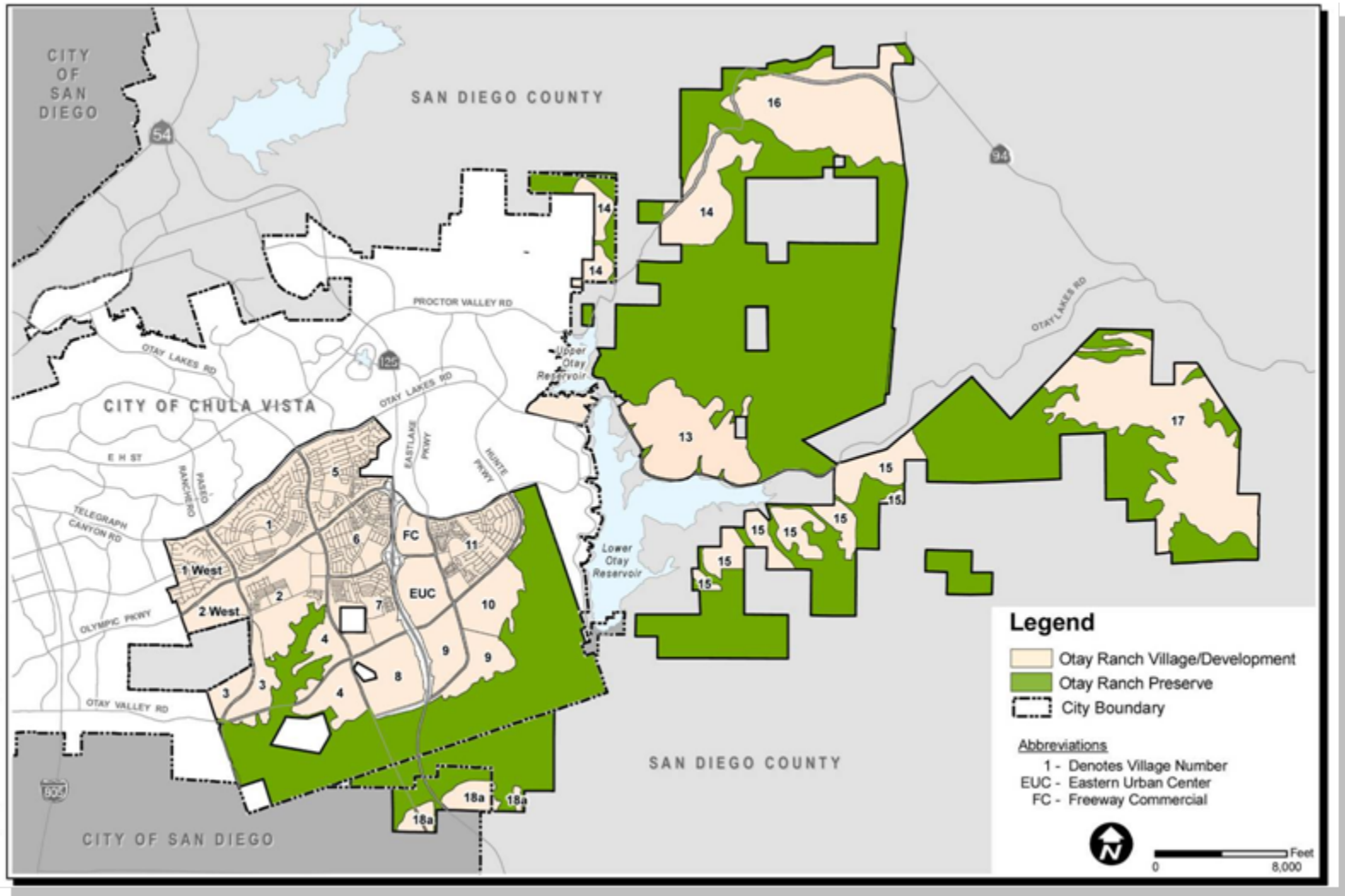
MSCP 2008 Annual Report Workshop August 26, 2009



City of Chula Vista
Otay Ranch Preserve



Otay Ranch Preserve



Otay Ranch Preserve



11,375 acre Preserve

~2,600 acres within Chula Vista

~8,700 acres within County of San Diego

Biological Resources include:

- Coastal sage scrub
- Maritime succulent scrub
- Chaparral
- California gnatcatcher
- Cactus wren
- Vernal pools
- San Diego thornmint
- Willowy monardella



Otay Ranch Preserve



Management and Monitoring Activities

City of Chula Vista and County of San Diego serve as the Preserve Owner/Manager (POM)

POM is currently managing ~1,300 acres

2008 biological surveys completed include:

- Vegetation mapping
- Invasive plants
- Floral surveys
- Gnatcatcher surveys
- Cactus wren surveys
- Avian wetlands species
- General butterfly surveys



Otay Ranch Preserve



Management and Monitoring Activities (cont.)

For 2009/2010:

- RECON to serve as Preserve Steward/Biologist
- RECON to continue monitoring of land currently managed by POM
- POM to accept ~1,500 acres of land
- Implement Cactus Wren habitat restoration in Salt Creek using Transnet Grant funding



Otay Ranch Preserve



Long-Term Funding Strategies

Community Facilities Districts (CFD)

- A Community Facilities District is set up to provide funding for operations and maintenance of public lands by levying an annual “special tax” which is collected from the property owners in conjunction with property taxes.
- The City of Chula Vista approved the creation and implementation of CFD 97-2 in October 1998



Otay Ranch Preserve



Community Facilities Districts (cont.)

The formation of the CFD involved:

- Establishing the initial budget based on actual cost estimates for biological management and monitoring
- Preparation of a Special Tax Report identifying:
 - Allowable uses for CFD funds
 - The formula determining the tax rates
 - The Maximum Tax Rate

Otay Ranch Preserve



Community Facilities Districts (cont.)

CFD funds are to be used for:

- Maintenance activities including removal of trash and control of exotic species
- Security and enforcement of “no trespassing”
- Preserve improvements and repairs/replacement of fencing
- Biota monitoring

CFD allows the City not to rely on the general funds to cover cost for long-term management and monitoring

The City is the first jurisdiction in the region to initiate a tax based funding mechanism

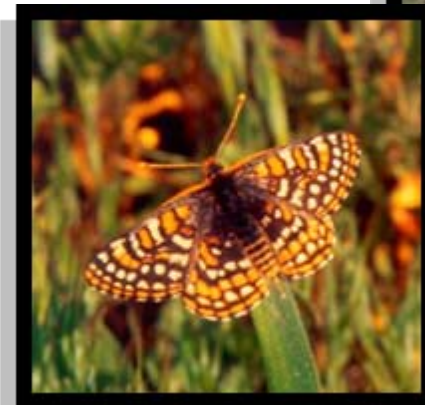
Otay Ranch Preserve



Long-Term Funding Strategies (cont.)

Preserve Management Endowment Fund (PMEF)

- Contributions made by the City in association with construction of public infrastructure
- PMEF provides supplemental funding for enhancement and restoration program within Otay Ranch



Otay Ranch Preserve

Thank You...





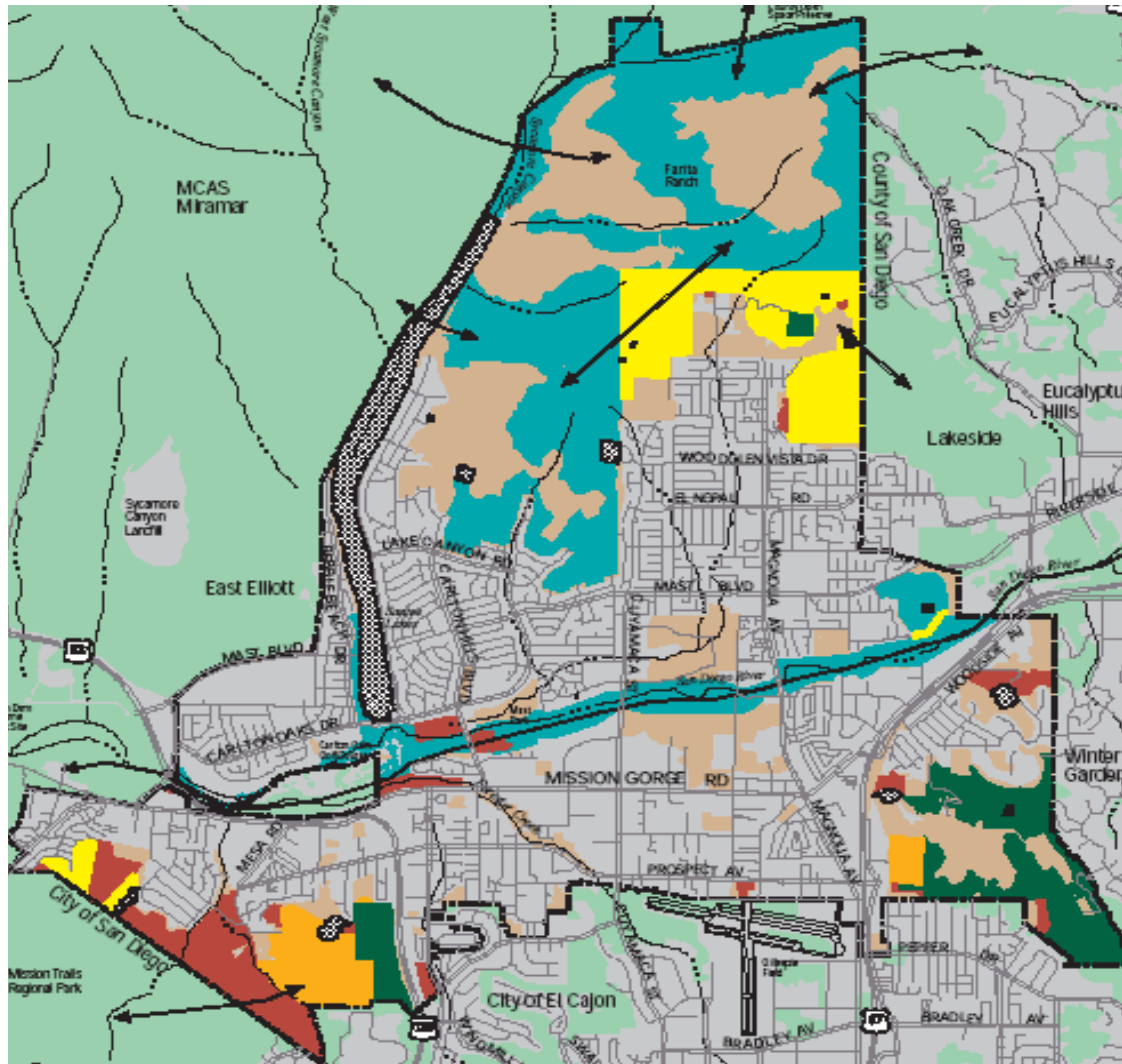
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Logo
here



Santee *Draft* Subarea Plan



- 2,518 acres anticipated at build-out
- 34 species proposed for coverage
- among these - two butterflies

Quino Checkerspot Butterfly

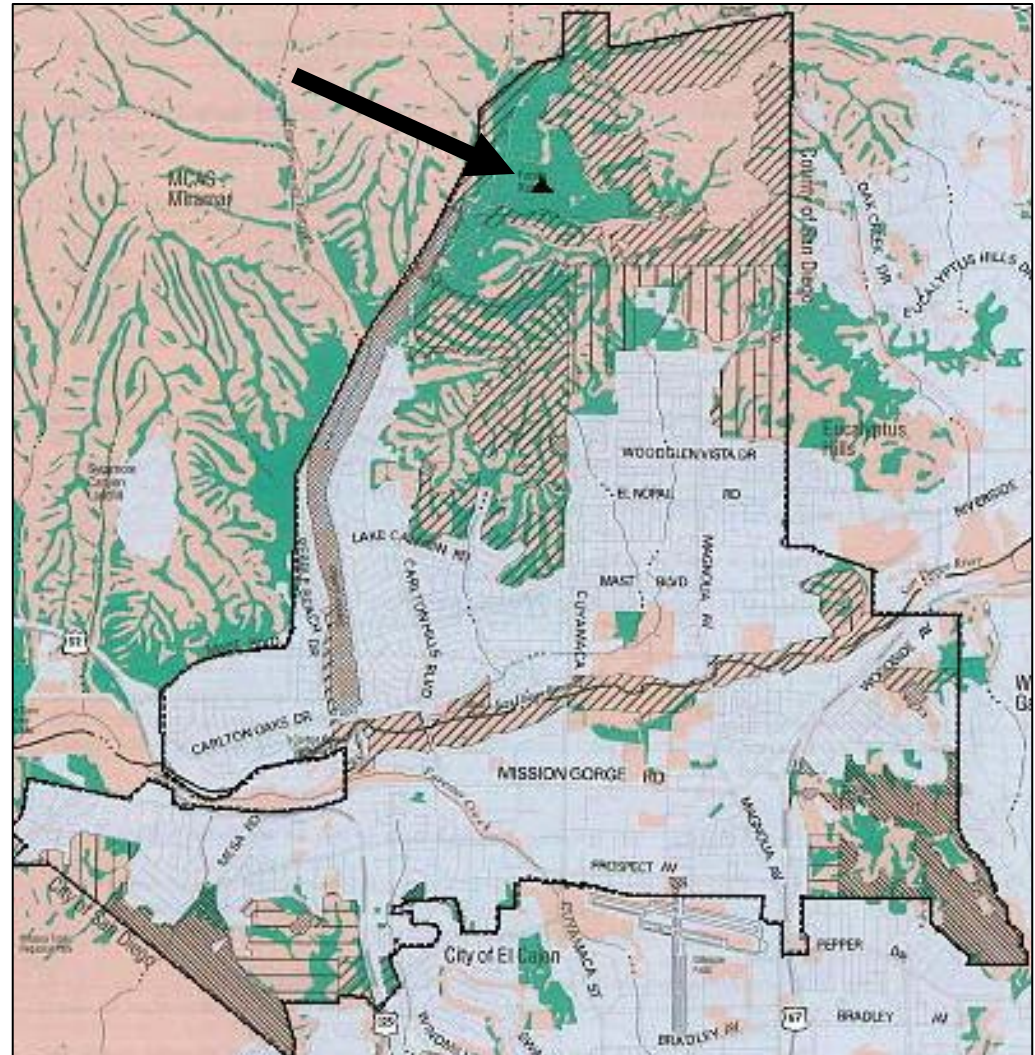


🦋 **Listed as Federally Endangered in 1997**

🦋 **Not covered under original MSCP Subregional Plan**

🦋 ***Draft Conservation Strategy prepared***

🦋 **Report = regional applicability**



Hermes Copper Butterfly

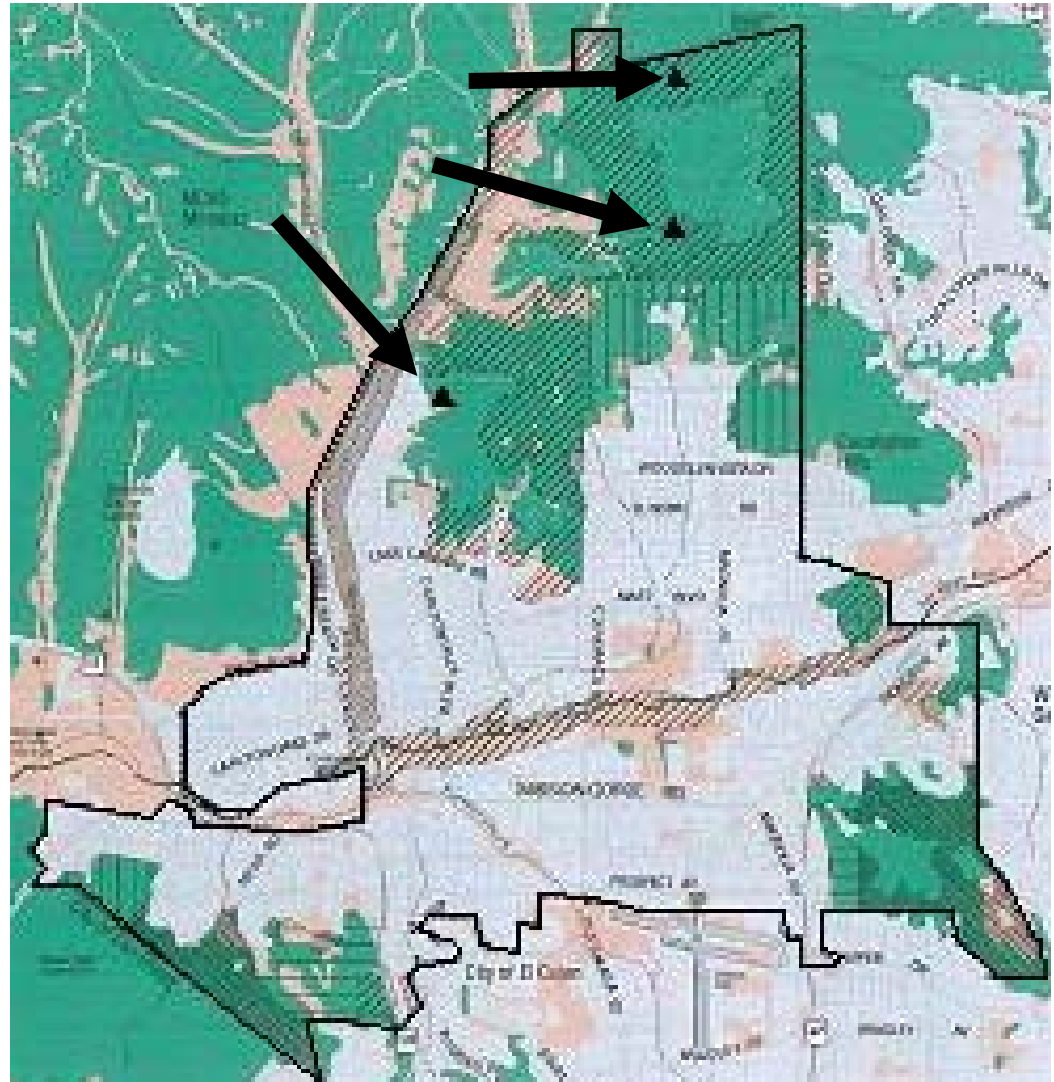


🦋 **Not current Listed as Federally Endangered**

🦋 **Not covered under original MSCP Subregional Plan**

🦋 ***Draft Conservation Strategy prepared***

🦋 **Report intended as *Regional Strategy***

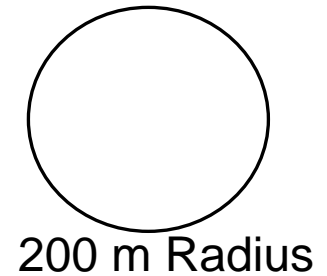
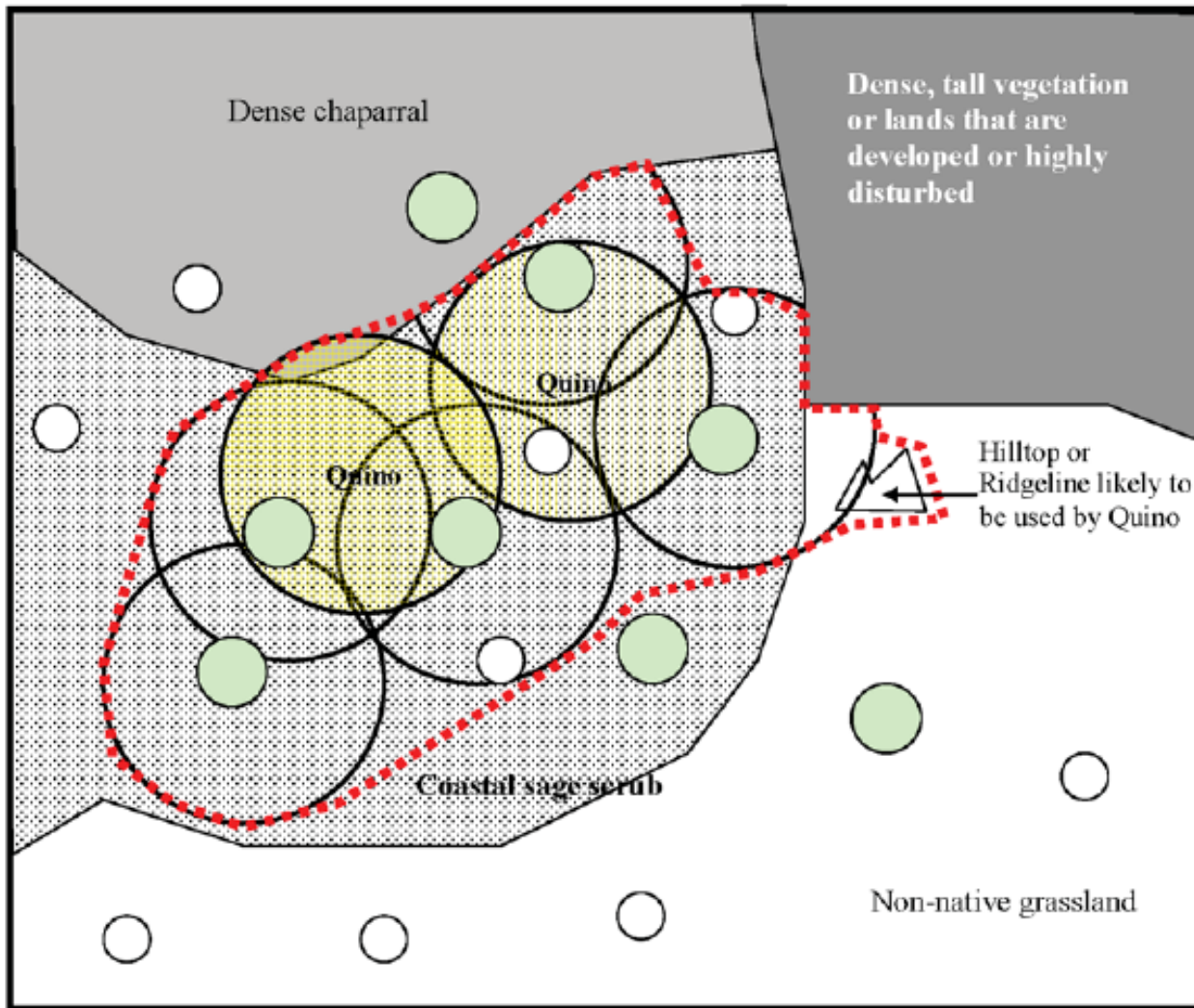


Primary Components of Conservation Strategies



- 1. Set Guidelines to Identify Habitat (existing and potential)**
- 2. Set Goals for Conservation**
- 3. Create Approval Process for new development with potential impacts**

1. Habitat Mapping Methodology (identify habitat)



200 m Radius



Significant Larval Host
Plant Patch

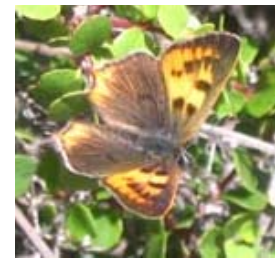


Insignificant Host or
Nectar Plant Pop.



Quino Habitat

2. Set Goals for Conservation



 **Goal:** 80% preservation of occupied habitat

 **Rank potential habitat** – based on cover and density of:


- larval host plants
- nectar sources
- potential hilltopping (quino)
- competing weed species

Goals for Conservation (cont.)



 **Connectivity with off-site populations, including other jurisdictions = priority**

 **Annual reporting workshops / share data**




 **Implement genetic studies of populations in area**

 **Develop captive breeding program**



3. Development Approval Process



- 1. Is Quino/Hermes present?**
- 2. If suitable habitat, perform habitat delineation**
- 3. Rank habitat (low, medium, high)**
- 4. Identify area for preservation:**
 -  **80% High,**
 -  **50% Medium,**
 -  **30% Low**

Cost Analysis



Activity	One-Time Cost	One-Time Cost/Acre	Annual Cost/Acre
Enhancement			
Restoration and Enhancement Plan	\$50,000–\$100,000	-	-
Fencing and Signage	-	\$5,000–\$20,000	-
Seed Collection/Temporary Storage/Seed Dispersal	-	-	\$500–\$1,500
Dethatching			\$2,500–\$3,500
Restoration			
Seed Bulking/Seed Dispersal	-	-	\$1,500–\$5,000
Container Planting	-	-	\$1,000–\$3,500
Herbicide Treatment (5 visits per year)	-	-	\$3,000–\$6,000

Questions?





MSCP 2008 Annual Report Workshop

August 26, 2009



Bureau of Land
Management





Quino Checkerspot Butterfly

- The BLM assisted the FWS in the 2008 range-wide presence/absence study.
- Eight (8) plots totaling sixteen (16) acres were surveyed on BLM lands within the Dulzura Quino Occurrence Complex.
- Quino were found on six of the eight plots.





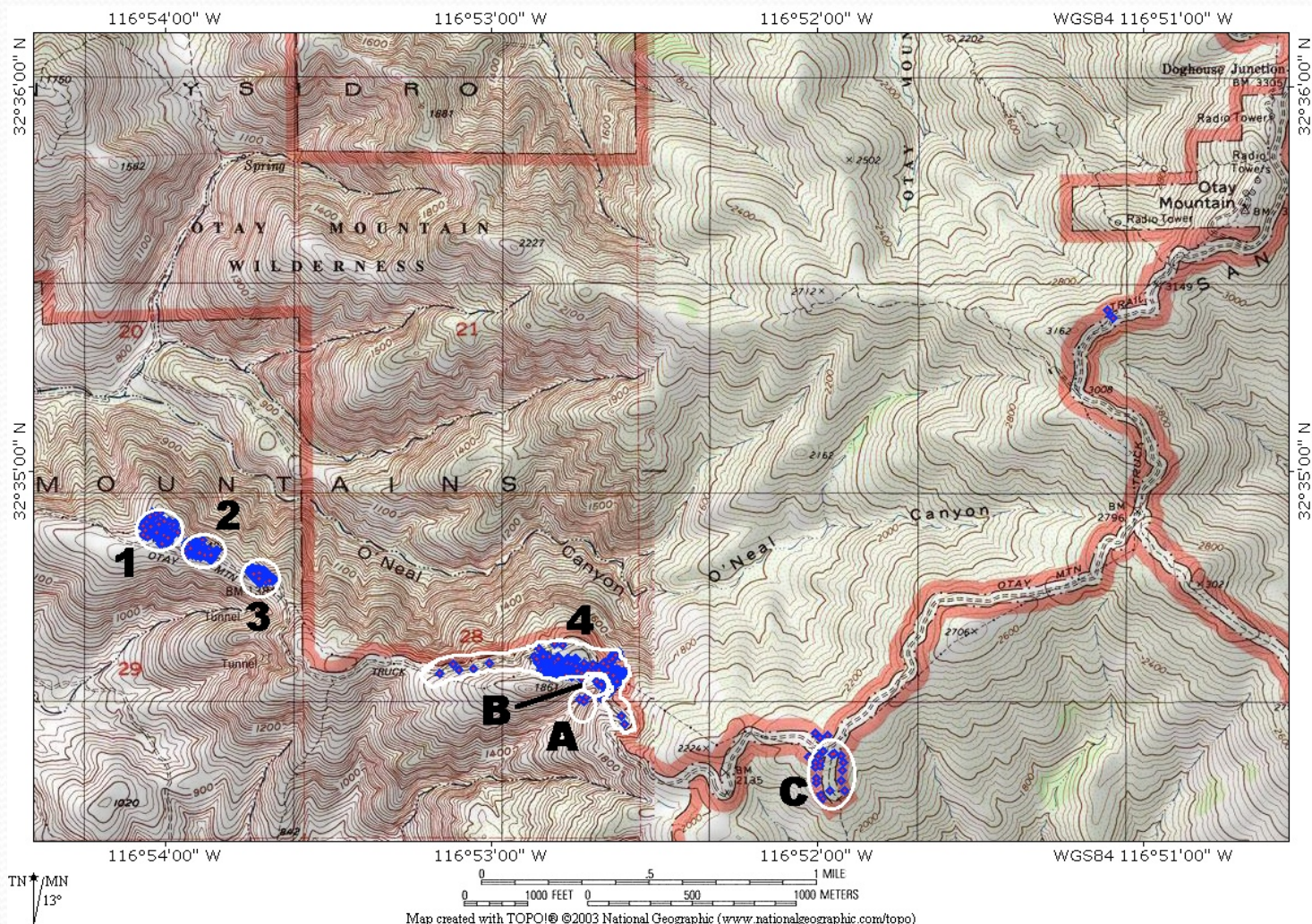
Thorne's Hairstreak Butterfly/ Tecate Cypress

In partnership w/
SDSU, Dr. Kathy
Williams is
studying the
relationship
between Thorne's
hairstreak and
Tecate cypress at
four (4) sites on
Otay Mountain.





Thorne's Hairstreak Butterfly/ Tecate Cypress





Thorne's Hairstreak Butterfly/ Tecate Cypress

Purpose of the study:

Promote the continued viability and persistence of Tecate cypress and Thorne's hairstreak populations on Otay Mountain.





Thorne's Hairstreak Butterfly/ Tecate Cypress

Study Objectives:

- ❖ Identify stands of Tecate cypress where Thorne's occur on Otay Mountain.
- ❖ Determine age class(es) of Tecate cypress used by Thorne's as host plants.





Thorne's Hairstreak Butterfly/ Tecate Cypress

Study objectives con't:

- Identify threats from
 - fire
 - non-native plant infestations
 - undocumented immigrant activity





Thorne's Hairstreak Butterfly/ Tecate Cypress

Results:

- ❖ No eggs or larvae were found on cypress trees at heights greater than two (2) meters.
 - ❖ Initially, Thorne's larvae reared in the lab showed a preference for young* cypress tissue but eventually, the larvae ate both young and mature cypress.
- * for the purpose of this study "young" is defined as those trees without cones and, "mature" is defined as those trees having cones.



Thorne's Hairstreak Butterfly/ Tecate Cypress

SANDAG contracted with the University of Nevada, Reno to implement Thorne's hairstreak monitoring using the San Diego MSCP Animal Monitoring Protocols.

Monitoring began in May 2009 with the mapping of all Tecate cypress trees greater than one meter in height on Otay Mountain.

The Otay Mountain Wilderness Tecate Cypress/Thorne's Hairstreak Butterfly Survey final report is available from Dr. Williams:

kathy.williams@sdsu.edu



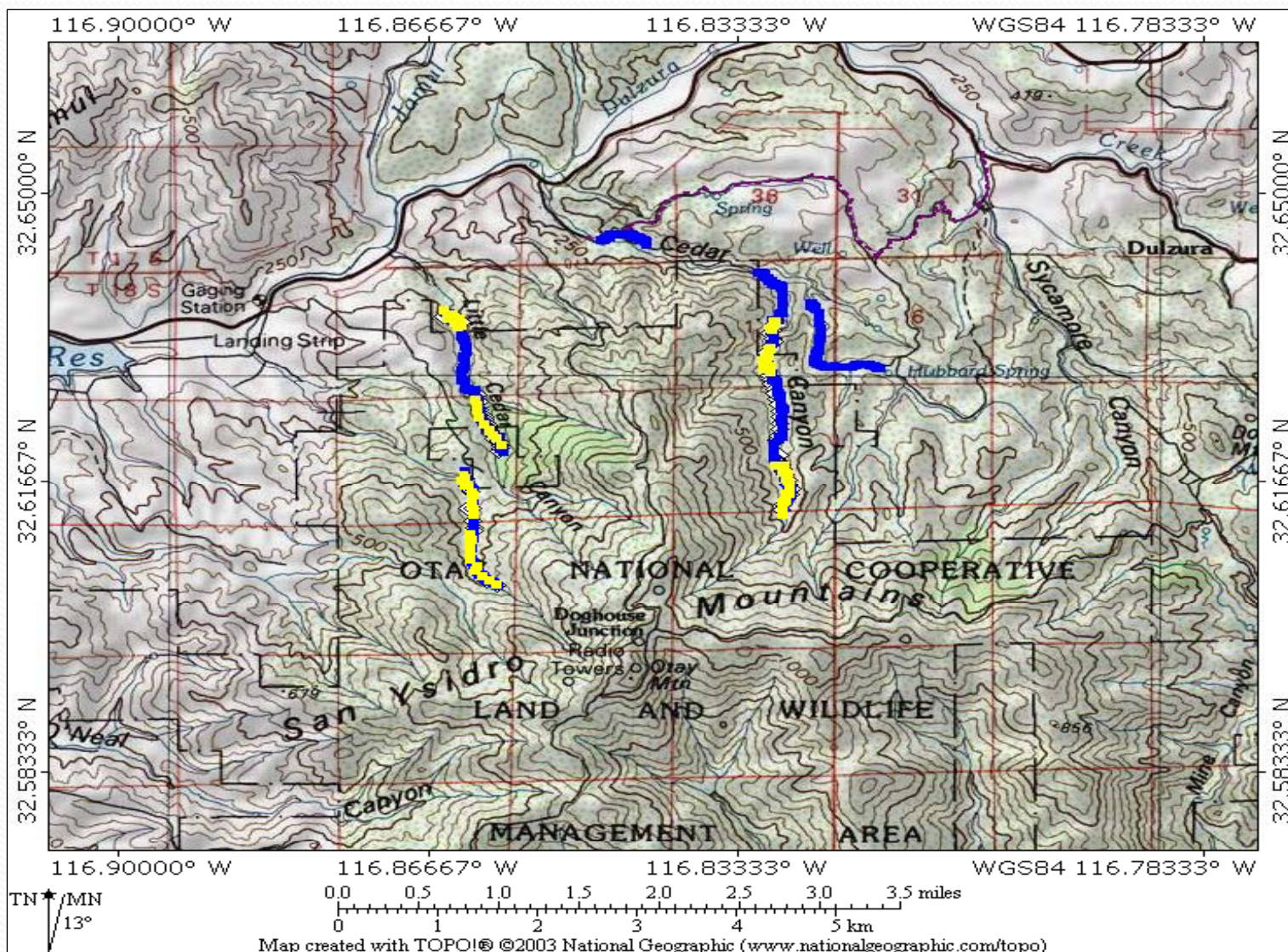
Mexican Flannelbush

Also in partnership
w/ SDSU, Dr. Kathy
Williams is
studying
populations of MFB
in Cedar, Little
Cedar and
Woodwardia
Canyons on Otay
Mountain.





Mexican Flannelbush





Mexican Flannelbush

Research Goals:

- ❖ Document the occurrence of MFB individuals in the canyons.
- ❖ Record numbers of plants per stand, their sizes and, estimate density.





Mexican Flannelbush

Research goals con't:

- ❖ Record flowering phenology .
- ❖ Note potential threats from co-occurring non-native plant species.





Mexican Flannelbush

Results:

- ❖ Estimates of densities and abundances suggest these populations are relatively vigorous and, they appear to be recovering from the unprecedented short fire frequencies of the last decade.
- ❖ No obvious threats from non-native species at this time however, vigilant monitoring of *Tamarix* sp. is recommended.



Mexican Flannelbush

Results con't:

- ❖ Cedar Canyon: ~ 1000 individuals w/ 2-3 plants/sq. meter and as dense as 5 plants/sq. meter in some areas when surveyed in May and July/August 2008
- ❖ Little Cedar Canyon: ~ 50 individuals found in the spring 2008 (no new recruits); 30 individuals found **resprouting** in September 2008.
- ❖ Woodwardia Canyon: three stands totaling ~ 600 individuals found in May 2008.



Mexican Flannelbush

Copies of the *Otay Mountain Wilderness Mexican Flannelbush Study* final report are available from Dr. Kathy Williams:

kathy.williams@sdsu.edu



Townsend's Big-eared Bat



Following the 2007 Harris Fire, the BLM utilized Burned Area Emergency Stabilization funding to protect Townsend's big-eared bat habitat-a BLM Sensitive Species.



Townsend's Big-eared Bat

- ❖ A bat gate was installed in the Donahoe mine in Marron Valley, Dulzura, CA.
- ❖ Although bats were not detected during preconstruction surveys, this mine has historically provided habitat for Townsend's big-eared bats.

